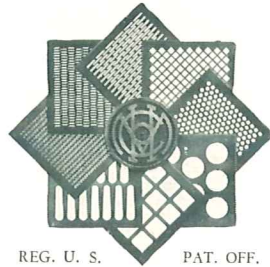


HENDRICK MANUFACTURING COMPANY
Carbondale, Pa.

PERFORATED METAL GRILLES



REG. U. S.

PAT. OFF.

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Printed in U. S. A.

H E N D R I C K Manufacturing Company Carbondale, Pa.

Branch Offices

30 Church St.
NEW YORK

Union Trust Bldg.
PITTSBURGH, PA.

Hazleton
PENNSYLVANIA

Representatives

Atlanta, Ga.
Baltimore, Md.
Binghamton, N. Y.
Birmingham, Ala.
Boston, Mass.

Buffalo, N. Y.
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Chicago, Ill.
Cincinnati, Ohio.
Cleveland, Ohio.
Detroit, Mich.

Erie, Pa.
Houston, Texas.
Indianapolis, Ind.
Los Angeles, Cal.
Montreal, Que.
Philadelphia, Pa.

San Francisco, Cal.
St. Paul, Minn.
Seattle, Wash.
Tulsa, Okla.
Utica, N. Y.

Also Manufacturers of

Perforated Metals

Elevator Buckets

Mitco Armorgrids

Mitco Interlocked Steel Grating

Mitco Shur-Site Treads

INTRODUCTION

HENDRICK GRILLES combine artistic qualities with economy. Artistic qualities are in the variety of designs available and in the grade of metal selected. Economy comes from the low cost commensurate with the quality of the finished product.

Hendrick Manufacturing Company will be glad to cooperate in producing special grilles designed by architects to harmonize with the theme of a particular building or room.

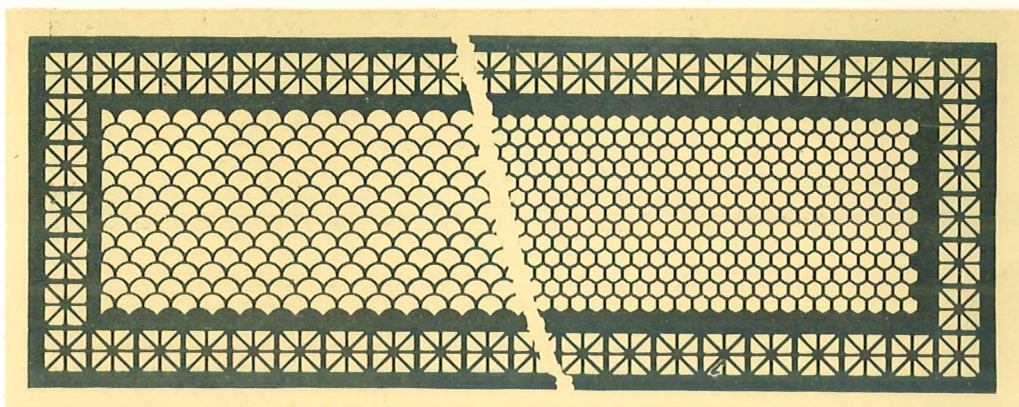
In the following pages are shown standard and special designs of Hendrick Grilles together with dimension tables affording the customer the necessary information as to the daylight opening of the various styles and sizes of grilles.

The daylight opening cannot be changed from the sizes shown in the tables, but margins of any width can be added to these sizes.

Wire cloth can be furnished to back up any of the grilles to keep out flies and other insects, and also hide ugly piping or other parts behind the grille.

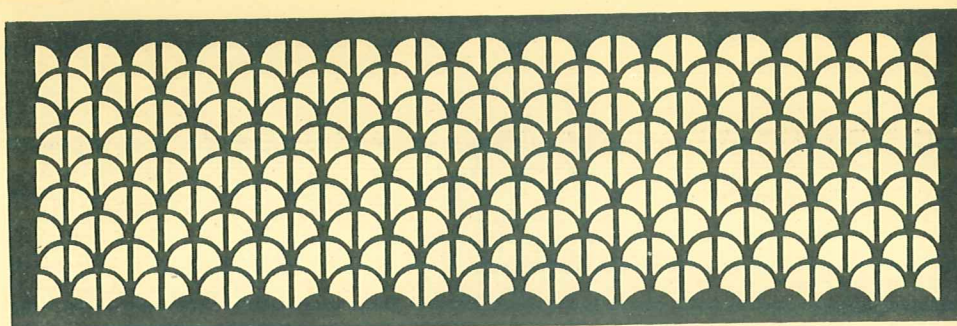
Grilles can be furnished made from steel, brass, bronze, etc., unpainted, with prime coat, with lacquer or with Duco finish of any specified color, or any standard electroplate finish. Color samples must be sent with order for finished grilles.

HENDRICK MANUFACTURING COMPANY

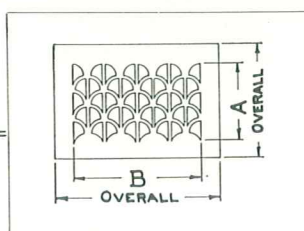


Combination Designs
Evolved from
Standard Figures

Illustrative of the variations possible in combinations. On the following pages are shown many different standard forms, any two or more of which may be arranged together.



HALF SHELL



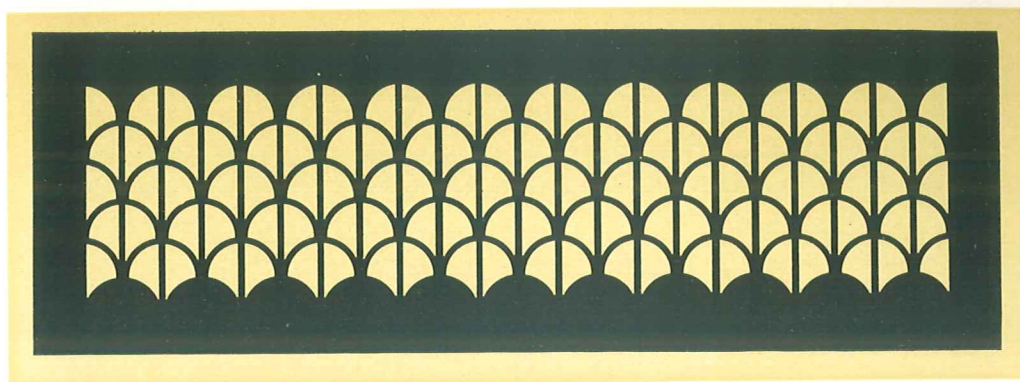
60% Open Area

TABLE A

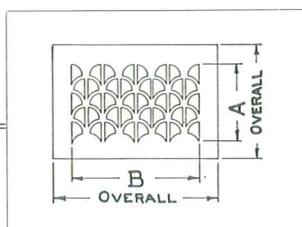
TABLE B

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	B Inches	No. of Holes	B Inches
1	$1\frac{7}{16}$	49	$55\frac{7}{16}$	2	$2\frac{7}{16}$	50	$66\frac{1}{8}$
3	$3\frac{11}{16}$	51	$57\frac{11}{16}$	4	$5\frac{1}{8}$	52	$69\frac{5}{8}$
5	$5\frac{1}{8}$	53	$59\frac{1}{8}$	6	$7\frac{1}{8}$	54	$72\frac{5}{16}$
7	$8\frac{3}{16}$	55	$62\frac{3}{16}$	8	$10\frac{1}{2}$	56	75
9	$10\frac{7}{16}$	57	$64\frac{7}{16}$	10	$13\frac{3}{16}$	58	$77\frac{11}{16}$
11	$12\frac{11}{16}$	59	$66\frac{11}{16}$	12	$15\frac{7}{8}$	60	$80\frac{3}{8}$
13	$14\frac{5}{8}$	61	$68\frac{5}{8}$	14	$18\frac{9}{16}$	62	$83\frac{1}{16}$
15	$17\frac{3}{8}$	63	$71\frac{3}{8}$	16	$21\frac{1}{4}$	64	$85\frac{3}{4}$
17	$19\frac{7}{16}$	65	$73\frac{7}{16}$	18	$23\frac{15}{16}$	66	$88\frac{7}{16}$
19	$21\frac{11}{16}$	67	$75\frac{11}{16}$	20	$26\frac{5}{8}$	68	$91\frac{1}{8}$
21	$23\frac{1}{2}$	69	$77\frac{1}{2}$	22	$29\frac{5}{16}$	70	$93\frac{13}{16}$
23	$26\frac{3}{16}$	71	$80\frac{3}{16}$	24	32	72	$96\frac{1}{2}$
25	$28\frac{7}{16}$	73	$82\frac{7}{16}$	26	$34\frac{11}{16}$	74	$99\frac{3}{16}$
27	$30\frac{11}{16}$	75	$84\frac{11}{16}$	28	$37\frac{3}{8}$	76	$101\frac{7}{8}$
29	$32\frac{1}{2}$	77	$86\frac{1}{2}$	30	$40\frac{1}{16}$	78	$104\frac{9}{16}$
31	$35\frac{3}{16}$	79	$89\frac{3}{16}$	32	$42\frac{3}{4}$	80	$107\frac{1}{4}$
33	$37\frac{7}{16}$	81	$91\frac{7}{16}$	34	$45\frac{7}{16}$	82	$109\frac{15}{16}$
35	$39\frac{11}{16}$	83	$93\frac{11}{16}$	36	$48\frac{1}{8}$	84	$112\frac{5}{8}$
37	$41\frac{1}{2}$	85	$95\frac{1}{2}$	38	$50\frac{13}{16}$	86	$115\frac{5}{16}$
39	$44\frac{3}{16}$	87	$98\frac{3}{16}$	40	$53\frac{1}{2}$	88	118
41	$46\frac{7}{16}$	89	$100\frac{7}{16}$	42	$56\frac{3}{16}$	90	$120\frac{1}{8}$
43	$48\frac{11}{16}$	91	$102\frac{11}{16}$	44	$58\frac{7}{8}$	92	$123\frac{3}{8}$
45	$50\frac{1}{2}$	93	$104\frac{1}{2}$	46	$61\frac{9}{16}$	94	$126\frac{1}{16}$
47	$53\frac{3}{16}$	95	$107\frac{3}{16}$	48	$64\frac{1}{4}$	96	$128\frac{3}{4}$

Sizes depend on rolling mill limits.
The above dimensions are correct to the nearest $\frac{1}{32}$ ".



HALF SHELL
2" x 2½"



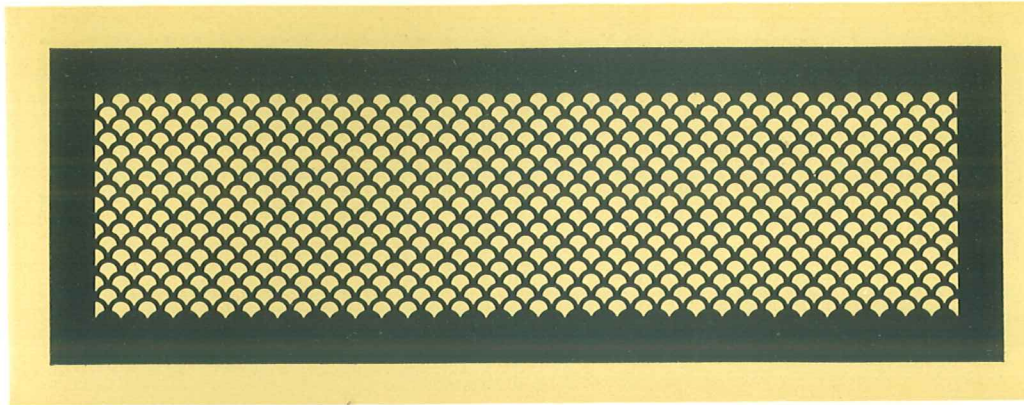
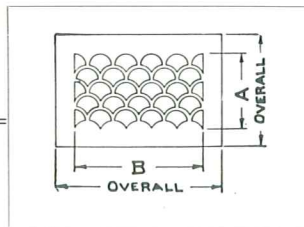
65 % Open Area

TABLE A

TABLE B

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	B Inches	No. of Holes	B Inches
1	2	49	74	2	2¾	50	74¾
3	5	51	77	4	5¾	52	77¾
5	8	53	80	6	8¾	54	80¾
7	11	55	83	8	11¾	56	83¾
9	14	57	86	10	14¾	58	86¾
11	17	59	89	12	17¾	60	89¾
13	20	61	92	14	20¾	62	92¾
15	23	63	95	16	23¾	64	95¾
17	26	65	98	18	26¾	66	98¾
19	29	67	101	20	29¾	68	101¾
21	32	69	104	22	32¾	70	104¾
23	35	71	107	24	35¾	72	107¾
25	38	73	110	26	38¾	74	110¾
27	41	75	113	28	41¾	76	113¾
29	44	77	116	30	44¾	78	116¾
31	47	79	119	32	47¾	80	119¾
33	50	81	122	34	50¾	82	122¾
35	53	83	125	36	53¾	84	125¾
37	56	85	128	38	56¾	86	128¾
39	59	87	131	40	59¾	88	131¾
41	62	89	134	42	62¾	90	134¾
43	65	91	137	44	65¾	92	137¾
45	68	93	140	46	68¾	94	140¾
47	71	95	143	48	71¾	96	143¾

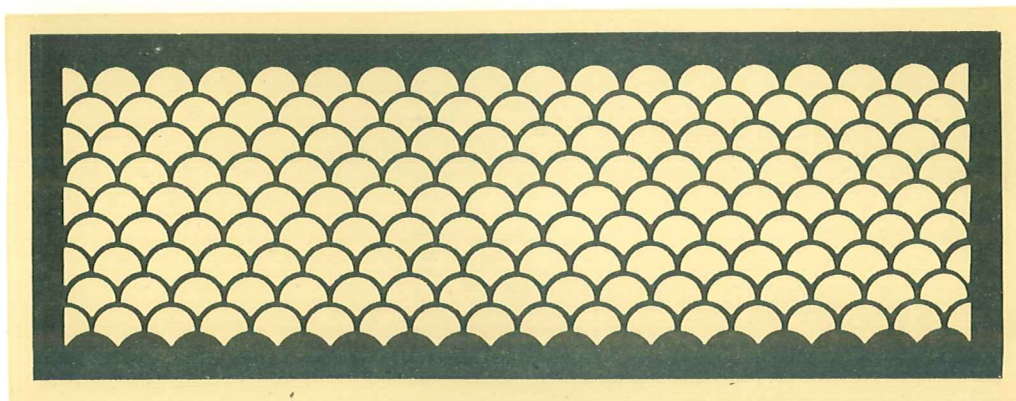
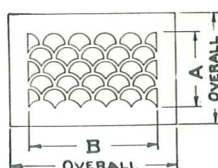
Sizes depend on rolling mill limits.

SHELL, $\frac{5}{8}$ "

50 % Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$\frac{5}{8}$	1	49	$24\frac{5}{8}$	25	97	$48\frac{5}{8}$	49
3	$1\frac{5}{8}$	2	51	$25\frac{5}{8}$	26	99	$49\frac{5}{8}$	50
5	$2\frac{5}{8}$	3	53	$26\frac{5}{8}$	27	101	$50\frac{5}{8}$	51
7	$3\frac{5}{8}$	4	55	$27\frac{5}{8}$	28	103	$51\frac{5}{8}$	52
9	$4\frac{5}{8}$	5	57	$28\frac{5}{8}$	29	105	$52\frac{5}{8}$	53
11	$5\frac{5}{8}$	6	59	$29\frac{5}{8}$	30	107	$53\frac{5}{8}$	54
13	$6\frac{5}{8}$	7	61	$30\frac{5}{8}$	31	109	$54\frac{5}{8}$	55
15	$7\frac{5}{8}$	8	63	$31\frac{5}{8}$	32	111	$55\frac{5}{8}$	56
17	$8\frac{5}{8}$	9	65	$32\frac{5}{8}$	33	113	$56\frac{5}{8}$	57
19	$9\frac{5}{8}$	10	67	$33\frac{5}{8}$	34	115	$57\frac{5}{8}$	58
21	$10\frac{5}{8}$	11	69	$34\frac{5}{8}$	35	117	$58\frac{5}{8}$	59
23	$11\frac{5}{8}$	12	71	$35\frac{5}{8}$	36	119	$59\frac{5}{8}$	60
25	$12\frac{5}{8}$	13	73	$36\frac{5}{8}$	37	121	$60\frac{5}{8}$	61
27	$13\frac{5}{8}$	14	75	$37\frac{5}{8}$	38	123	$61\frac{5}{8}$	62
29	$14\frac{5}{8}$	15	77	$38\frac{5}{8}$	39	125	$62\frac{5}{8}$	63
31	$15\frac{5}{8}$	16	79	$39\frac{5}{8}$	40	127	$63\frac{5}{8}$	64
33	$16\frac{5}{8}$	17	81	$40\frac{5}{8}$	41	129	$64\frac{5}{8}$	65
35	$17\frac{5}{8}$	18	83	$41\frac{5}{8}$	42	131	$65\frac{5}{8}$	66
37	$18\frac{5}{8}$	19	85	$42\frac{5}{8}$	43	133	$66\frac{5}{8}$	67
39	$19\frac{5}{8}$	20	87	$43\frac{5}{8}$	44	135	$67\frac{5}{8}$	68
41	$20\frac{5}{8}$	21	89	$44\frac{5}{8}$	45	137	$68\frac{5}{8}$	69
43	$21\frac{5}{8}$	22	91	$45\frac{5}{8}$	46	139	$69\frac{5}{8}$	70
45	$22\frac{5}{8}$	23	93	$46\frac{5}{8}$	47	141	$70\frac{5}{8}$	71
47	$23\frac{5}{8}$	24	95	$47\frac{5}{8}$	48	143	$71\frac{5}{8}$	72

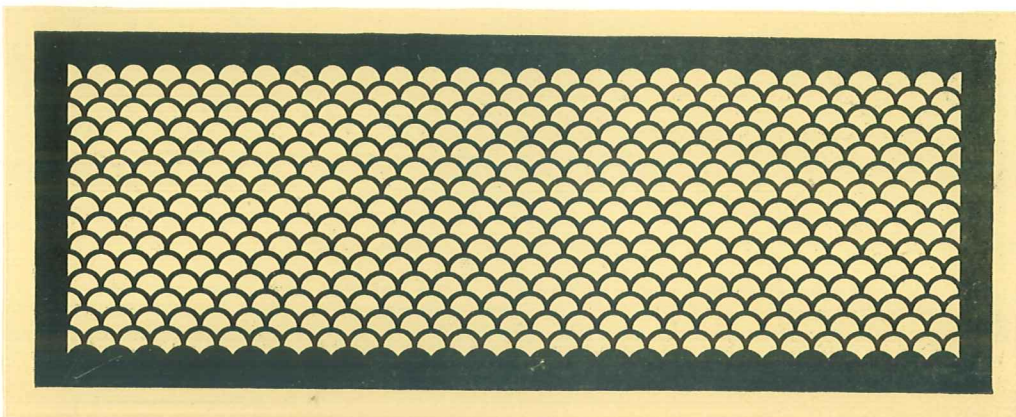
Sizes depend on rolling mill limits.

SHELL, $1\frac{3}{4}$ "

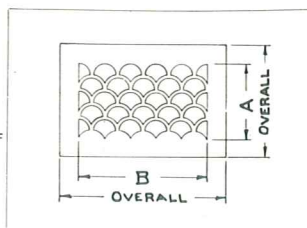
72% Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$1\frac{7}{16}$	2	41	$46\frac{7}{16}$	42	81	$91\frac{7}{16}$	82
3	$3\frac{1}{16}$	4	43	$48\frac{11}{16}$	44	83	$93\frac{11}{16}$	84
5	$5\frac{5}{16}$	6	45	$50\frac{15}{16}$	46	85	$95\frac{15}{16}$	86
7	$8\frac{3}{16}$	8	47	$53\frac{3}{16}$	48	87	$98\frac{3}{16}$	88
9	$10\frac{7}{16}$	10	49	$55\frac{7}{16}$	50	89	....	90
11	$12\frac{11}{16}$	12	51	$57\frac{11}{16}$	52	91	....	92
13	$14\frac{5}{16}$	14	53	$59\frac{15}{16}$	54	93	....	94
15	$17\frac{3}{16}$	16	55	$62\frac{3}{16}$	56	95	....	96
17	$19\frac{7}{16}$	18	57	$64\frac{7}{16}$	58	97	....	98
19	$21\frac{11}{16}$	20	59	$66\frac{11}{16}$	60	99	....	100
21	$23\frac{15}{16}$	22	61	$68\frac{15}{16}$	62	101	....	102
23	$26\frac{3}{16}$	24	63	$71\frac{3}{16}$	64	103	....	104
25	$28\frac{7}{16}$	26	65	$73\frac{7}{16}$	66	105	....	106
27	$30\frac{11}{16}$	28	67	$75\frac{11}{16}$	68	107	....	108
29	$32\frac{15}{16}$	30	69	$77\frac{15}{16}$	70	109	....	110
31	$35\frac{3}{16}$	32	71	$80\frac{3}{16}$	72	111	....	112
33	$37\frac{7}{16}$	34	73	$82\frac{7}{16}$	74	113	....	114
35	$39\frac{11}{16}$	36	75	$84\frac{11}{16}$	76	115	....	116
37	$41\frac{15}{16}$	38	77	$86\frac{15}{16}$	78	117	....	118
39	$44\frac{3}{16}$	40	79	$89\frac{3}{16}$	80			

Sizes depend on rolling mill limits.
The above dimensions are correct to the nearest $\frac{1}{32}$ "



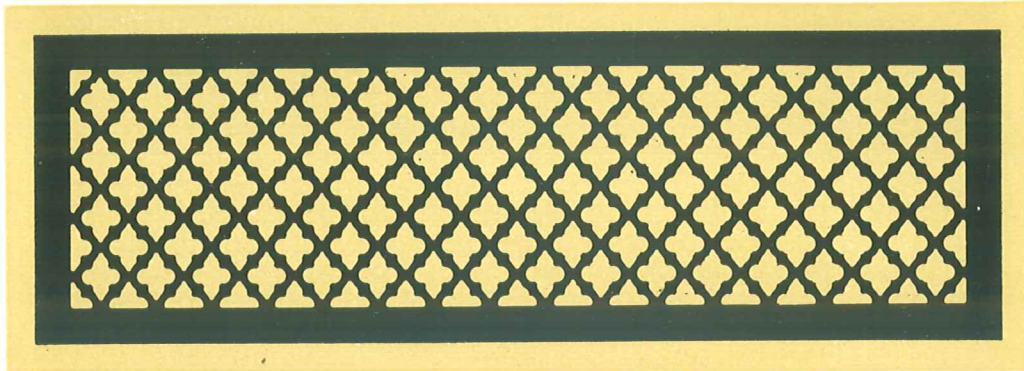
SHELL 1"



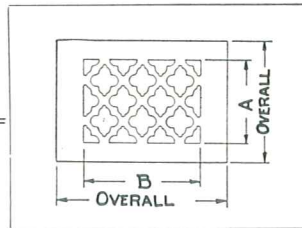
56% Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$\frac{7}{8}$	$1\frac{1}{4}$	49	$35\frac{3}{8}$	$31\frac{1}{4}$	97	$69\frac{7}{8}$	$61\frac{1}{4}$
3	$2\frac{5}{16}$	$2\frac{1}{2}$	51	$36\frac{1}{8}$	$32\frac{1}{2}$	99	$71\frac{5}{16}$	$62\frac{1}{2}$
5	$3\frac{3}{4}$	$3\frac{3}{4}$	53	$38\frac{1}{4}$	$33\frac{3}{4}$	101	$72\frac{3}{4}$	$63\frac{3}{4}$
7	$5\frac{3}{16}$	5	55	$39\frac{1}{16}$	35	103	$74\frac{3}{16}$	65
9	$6\frac{5}{8}$	$6\frac{1}{4}$	57	$41\frac{1}{8}$	$36\frac{1}{4}$	105	$75\frac{5}{8}$	$66\frac{1}{4}$
11	$8\frac{1}{16}$	$7\frac{1}{2}$	59	$45\frac{9}{16}$	$37\frac{1}{2}$	107	$77\frac{1}{16}$	$67\frac{1}{2}$
13	$9\frac{1}{2}$	$8\frac{3}{4}$	61	44	$38\frac{3}{4}$	109	$78\frac{1}{2}$	$68\frac{3}{4}$
15	$10\frac{1}{16}$	10	63	$45\frac{7}{16}$	40	111	$79\frac{1}{16}$	70
17	$12\frac{3}{8}$	$11\frac{1}{4}$	65	$46\frac{7}{8}$	$41\frac{1}{4}$	113	$81\frac{3}{8}$	$71\frac{1}{4}$
19	$13\frac{1}{16}$	$12\frac{1}{2}$	67	$48\frac{5}{16}$	$42\frac{1}{2}$	115	$82\frac{1}{16}$	$72\frac{1}{2}$
21	$15\frac{1}{4}$	$13\frac{3}{4}$	69	$49\frac{3}{4}$	$43\frac{3}{4}$	117	$84\frac{1}{4}$	$73\frac{3}{4}$
23	$16\frac{1}{16}$	15	71	$51\frac{3}{16}$	45	119	$85\frac{1}{16}$	75
25	$18\frac{1}{8}$	$16\frac{1}{4}$	73	$52\frac{5}{8}$	$46\frac{1}{4}$	121	$87\frac{1}{8}$	$76\frac{1}{4}$
27	$19\frac{9}{16}$	$17\frac{1}{2}$	75	$54\frac{1}{16}$	$47\frac{1}{2}$	123	$88\frac{9}{16}$	$77\frac{1}{2}$
29	21	$18\frac{3}{4}$	77	$55\frac{1}{2}$	$48\frac{3}{4}$	125	90	$78\frac{3}{4}$
31	$22\frac{7}{16}$	20	79	$56\frac{1}{16}$	50	127	$91\frac{7}{16}$	80
33	$23\frac{7}{8}$	$21\frac{1}{4}$	81	$58\frac{3}{8}$	$51\frac{1}{4}$	129	$92\frac{7}{8}$	$81\frac{1}{4}$
35	$25\frac{5}{16}$	$22\frac{1}{2}$	83	$59\frac{1}{8}$	$52\frac{1}{2}$	131	$94\frac{5}{16}$	$82\frac{1}{2}$
37	$26\frac{3}{4}$	$23\frac{3}{4}$	85	$61\frac{1}{4}$	$53\frac{3}{4}$	133	$95\frac{3}{4}$	$83\frac{3}{4}$
39	$28\frac{3}{16}$	25	87	$62\frac{1}{16}$	55	135	$97\frac{3}{16}$	85
41	$29\frac{5}{8}$	$26\frac{1}{4}$	89	$64\frac{1}{8}$	$56\frac{1}{4}$	137	$98\frac{5}{8}$	$86\frac{1}{4}$
43	$31\frac{1}{16}$	$27\frac{1}{2}$	91	$65\frac{9}{16}$	$57\frac{1}{2}$	139	$100\frac{1}{16}$	$87\frac{1}{2}$
45	$32\frac{1}{2}$	$28\frac{3}{4}$	93	67	$58\frac{3}{4}$	141	$101\frac{1}{2}$	$88\frac{3}{4}$
47	$33\frac{1}{16}$	30	95	$68\frac{7}{16}$	60	143	$102\frac{1}{16}$	90

Sizes depend on rolling mill limits.



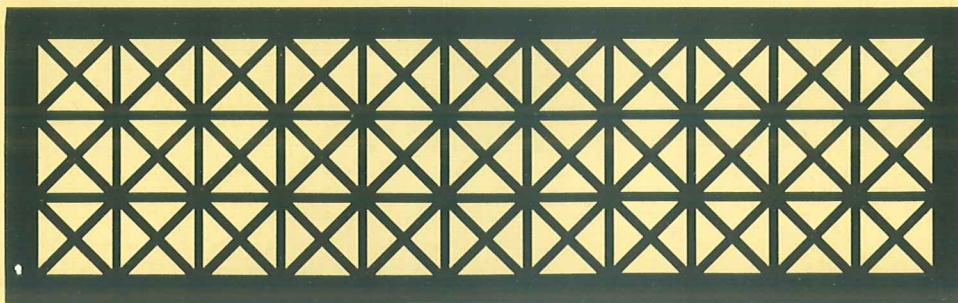
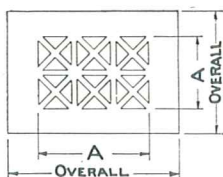
GOTHIC
CLOVERLEAF



65 % Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	2 $\frac{1}{8}$	2	25	53 $\frac{1}{8}$	50	49	104 $\frac{1}{8}$	98
2	4 $\frac{1}{4}$	4	26	55 $\frac{1}{4}$	52	50	106 $\frac{1}{4}$	100
3	6 $\frac{3}{8}$	6	27	57 $\frac{3}{8}$	54	51	108 $\frac{3}{8}$	102
4	8 $\frac{1}{2}$	8	28	59 $\frac{1}{2}$	56	52	110 $\frac{1}{2}$	104
5	10 $\frac{5}{8}$	10	29	61 $\frac{5}{8}$	58	53	112 $\frac{5}{8}$	106
6	12 $\frac{3}{4}$	12	30	63 $\frac{3}{4}$	60	54	114 $\frac{3}{4}$	108
7	14 $\frac{7}{8}$	14	31	65 $\frac{7}{8}$	62	55	116 $\frac{7}{8}$	110
8	17	16	32	68	64	56	119	112
9	19 $\frac{1}{8}$	18	33	70 $\frac{1}{8}$	66	57	121 $\frac{1}{8}$	114
10	21 $\frac{1}{4}$	20	34	72 $\frac{1}{4}$	68	58	123 $\frac{1}{4}$	116
11	23 $\frac{3}{8}$	22	35	74 $\frac{3}{8}$	70	59	125 $\frac{3}{8}$	118
12	25 $\frac{1}{2}$	24	36	76 $\frac{1}{2}$	72	60	127 $\frac{1}{2}$	120
13	27 $\frac{5}{8}$	26	37	78 $\frac{5}{8}$	74	61	.....	122
14	29 $\frac{3}{4}$	28	38	80 $\frac{3}{4}$	76	62	.....	124
15	31 $\frac{7}{8}$	30	39	82 $\frac{7}{8}$	78	63	.....	126
16	34	32	40	85	80	64	.....	128
17	36 $\frac{1}{8}$	34	41	87 $\frac{1}{8}$	82	65	.....	130
18	38 $\frac{1}{4}$	36	42	89 $\frac{1}{4}$	84	66	.....	132
19	40 $\frac{3}{8}$	38	43	91 $\frac{3}{8}$	86	67	.....	134
20	42 $\frac{1}{2}$	40	44	93 $\frac{1}{2}$	88	68	.....	136
21	44 $\frac{5}{8}$	42	45	95 $\frac{5}{8}$	90	69	.....	138
22	46 $\frac{3}{4}$	44	46	97 $\frac{3}{4}$	92	70	.....	140
23	48 $\frac{7}{8}$	46	47	99 $\frac{7}{8}$	94	71	.....	142
24	51	48	48	102	96	72	.....	144

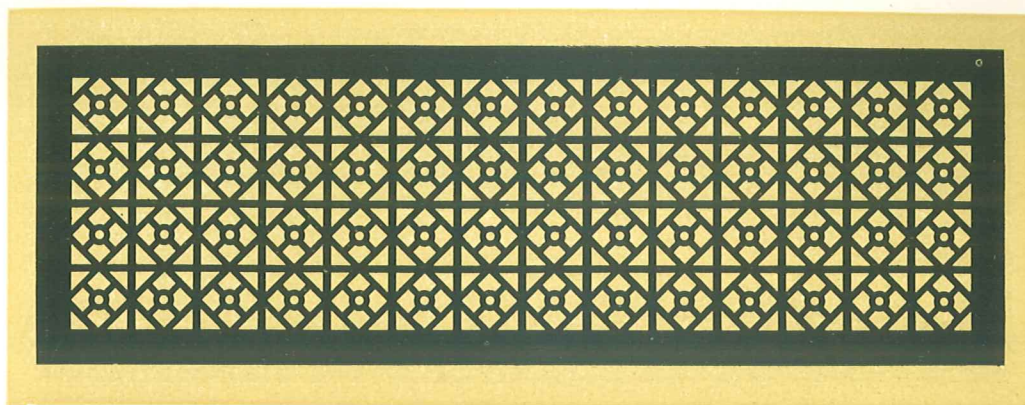
Sizes depend on rolling mill limits.

MALTESE, $2\frac{3}{4}$ "

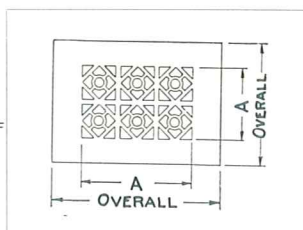
51 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	$2\frac{3}{4}$	13	$40\frac{1}{4}$	25	$77\frac{3}{4}$	37	$115\frac{1}{4}$
2	$5\frac{7}{8}$	14	$43\frac{3}{8}$	26	$80\frac{7}{8}$	38	$118\frac{3}{8}$
3	9	15	$46\frac{1}{2}$	27	84	39	$121\frac{1}{2}$
4	$12\frac{1}{8}$	16	$49\frac{5}{8}$	28	$87\frac{1}{8}$	40	$124\frac{5}{8}$
5	$15\frac{1}{4}$	17	$52\frac{3}{4}$	29	$90\frac{1}{4}$	41	$127\frac{3}{4}$
6	$18\frac{3}{8}$	18	$55\frac{7}{8}$	30	$93\frac{3}{8}$	42	$130\frac{7}{8}$
7	$21\frac{1}{2}$	19	59	31	$96\frac{1}{2}$	43	134
8	$24\frac{5}{8}$	20	$62\frac{1}{8}$	32	$99\frac{5}{8}$	44	$137\frac{1}{8}$
9	$27\frac{3}{4}$	21	$65\frac{1}{4}$	33	$102\frac{3}{4}$	45	$140\frac{1}{4}$
10	$30\frac{7}{8}$	22	$68\frac{3}{8}$	34	$105\frac{7}{8}$	46	$143\frac{3}{8}$
11	34	23	$71\frac{1}{2}$	35	109	47	$146\frac{1}{2}$
12	$37\frac{1}{8}$	24	$74\frac{5}{8}$	36	$112\frac{1}{8}$	48	$149\frac{5}{8}$

Sizes depend on rolling mill limits.



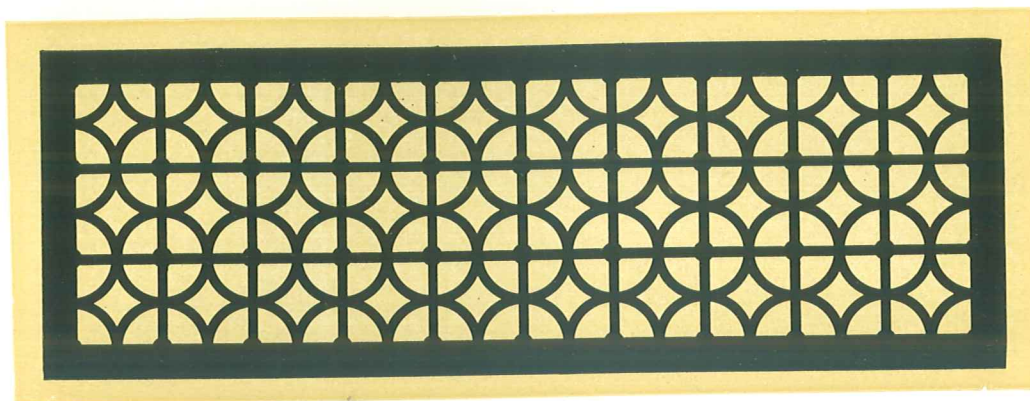
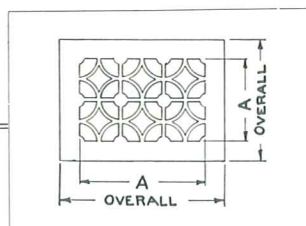
ARGIVE



60 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	$2\frac{7}{16}$	13	$35\frac{7}{16}$	25	$68\frac{7}{16}$	37	$101\frac{7}{16}$
2	$5\frac{3}{16}$	14	$38\frac{3}{16}$	26	$71\frac{3}{16}$	38	$104\frac{3}{16}$
3	$7\frac{15}{16}$	15	$40\frac{15}{16}$	27	$73\frac{15}{16}$	39	$106\frac{15}{16}$
4	$10\frac{11}{16}$	16	$43\frac{11}{16}$	28	$76\frac{11}{16}$	40	$109\frac{11}{16}$
5	$13\frac{7}{16}$	17	$46\frac{7}{16}$	29	$79\frac{7}{16}$	41	$112\frac{7}{16}$
6	$16\frac{3}{16}$	18	$49\frac{3}{16}$	30	$82\frac{3}{16}$	42	$115\frac{3}{16}$
7	$18\frac{15}{16}$	19	$51\frac{15}{16}$	31	$84\frac{15}{16}$	43	$117\frac{15}{16}$
8	$21\frac{11}{16}$	20	$54\frac{11}{16}$	32	$87\frac{11}{16}$	44	$120\frac{11}{16}$
9	$24\frac{7}{16}$	21	$57\frac{7}{16}$	33	$90\frac{7}{16}$	45	$123\frac{7}{16}$
10	$27\frac{3}{16}$	22	$60\frac{3}{16}$	34	$93\frac{3}{16}$	46	$126\frac{3}{16}$
11	$29\frac{15}{16}$	23	$62\frac{15}{16}$	35	$95\frac{15}{16}$	47	$128\frac{15}{16}$
12	$32\frac{11}{16}$	24	$65\frac{11}{16}$	36	$98\frac{11}{16}$	48	$131\frac{11}{16}$

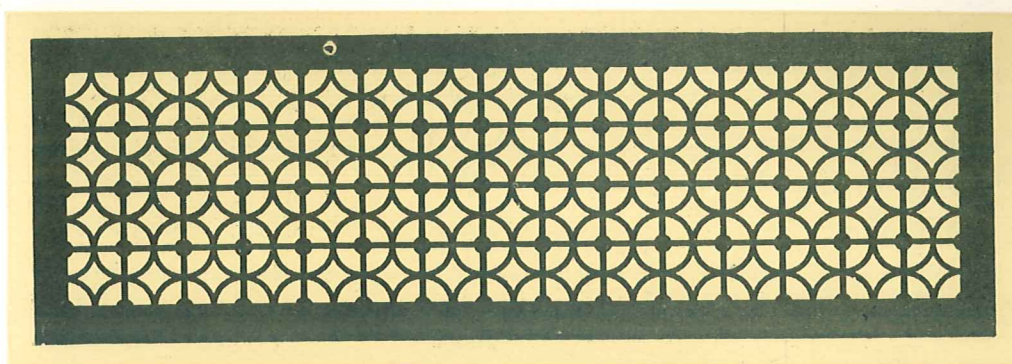
Sizes depend on rolling mill limits.

EGYPTIAN, $2\frac{7}{8}$ "

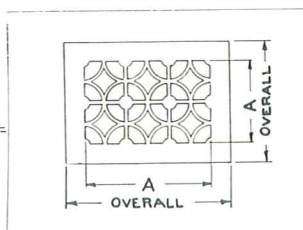
52 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	$2\frac{7}{8}$	13	$41\frac{7}{8}$	25	$80\frac{7}{8}$	37	$119\frac{7}{8}$
2	$6\frac{1}{8}$	14	$45\frac{1}{8}$	26	$84\frac{1}{8}$	38	$123\frac{1}{8}$
3	$9\frac{3}{8}$	15	$48\frac{3}{8}$	27	$87\frac{3}{8}$	39	$126\frac{3}{8}$
4	$12\frac{5}{8}$	16	$51\frac{5}{8}$	28	$90\frac{5}{8}$	40	$129\frac{5}{8}$
5	$15\frac{7}{8}$	17	$54\frac{7}{8}$	29	$93\frac{7}{8}$	41	$132\frac{7}{8}$
6	$19\frac{1}{8}$	18	$58\frac{1}{8}$	30	$97\frac{1}{8}$	42	$136\frac{1}{8}$
7	$22\frac{3}{8}$	19	$61\frac{3}{8}$	31	$100\frac{3}{8}$	43	$139\frac{3}{8}$
8	$25\frac{5}{8}$	20	$64\frac{5}{8}$	32	$103\frac{5}{8}$	44	$142\frac{5}{8}$
9	$28\frac{7}{8}$	21	$67\frac{7}{8}$	33	$106\frac{7}{8}$	45	$145\frac{7}{8}$
10	$32\frac{1}{8}$	22	$71\frac{1}{8}$	34	$110\frac{1}{8}$	46	$149\frac{1}{8}$
11	$35\frac{3}{8}$	23	$74\frac{3}{8}$	35	$113\frac{3}{8}$	47	$152\frac{3}{8}$
12	$38\frac{5}{8}$	24	$77\frac{5}{8}$	36	$116\frac{5}{8}$	48	$155\frac{5}{8}$

Sizes depend on rolling mill limits.



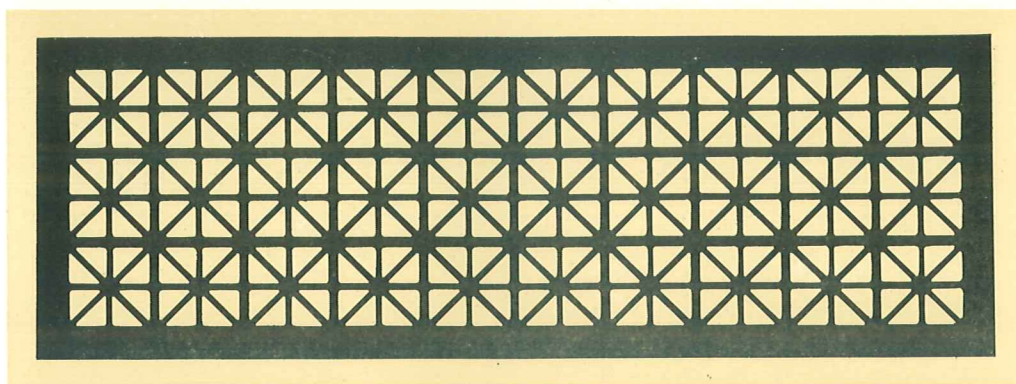
EGYPTIAN



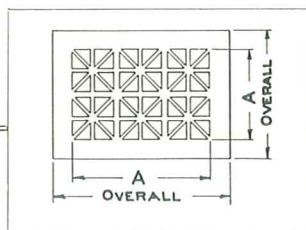
55% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	2	20	44 $\frac{3}{4}$	39	87 $\frac{1}{2}$	58	130 $\frac{1}{4}$
2	4 $\frac{1}{4}$	21	47	40	89 $\frac{3}{4}$	59	132 $\frac{1}{2}$
3	6 $\frac{1}{2}$	22	49 $\frac{1}{4}$	41	92	60	134 $\frac{3}{4}$
4	8 $\frac{3}{4}$	23	51 $\frac{1}{2}$	42	94 $\frac{1}{4}$	61	137
5	11	24	53 $\frac{3}{4}$	43	96 $\frac{1}{2}$	62	139 $\frac{1}{4}$
6	13 $\frac{1}{4}$	25	56	44	98 $\frac{3}{4}$	63	141 $\frac{1}{2}$
7	15 $\frac{1}{2}$	26	58 $\frac{1}{4}$	45	101	64	143 $\frac{3}{4}$
8	17 $\frac{3}{4}$	27	60 $\frac{1}{2}$	46	103 $\frac{1}{4}$	65	146
9	20	28	62 $\frac{3}{4}$	47	105 $\frac{1}{2}$	66	148 $\frac{1}{4}$
10	22 $\frac{1}{4}$	29	65	48	107 $\frac{3}{4}$	67	150 $\frac{1}{2}$
11	24 $\frac{1}{2}$	30	67 $\frac{1}{4}$	49	110	68	152 $\frac{3}{4}$
12	26 $\frac{3}{4}$	31	69 $\frac{1}{2}$	50	112 $\frac{1}{4}$	69	155
13	29	32	71 $\frac{3}{4}$	51	114 $\frac{1}{2}$	70	157 $\frac{1}{4}$
14	31 $\frac{1}{4}$	33	74	52	116 $\frac{3}{4}$	71	159 $\frac{1}{2}$
15	33 $\frac{1}{2}$	34	76 $\frac{1}{4}$	53	119	72	161 $\frac{3}{4}$
16	35 $\frac{3}{4}$	35	78 $\frac{1}{2}$	54	121 $\frac{1}{4}$	73	164
17	38	36	80 $\frac{3}{4}$	55	123 $\frac{1}{2}$	74	166 $\frac{1}{4}$
18	40 $\frac{1}{4}$	37	83	56	125 $\frac{3}{4}$	75	168 $\frac{1}{2}$
19	42 $\frac{1}{2}$	38	85 $\frac{1}{4}$	57	128	76	170 $\frac{3}{4}$

Sizes depend on rolling mill limits.



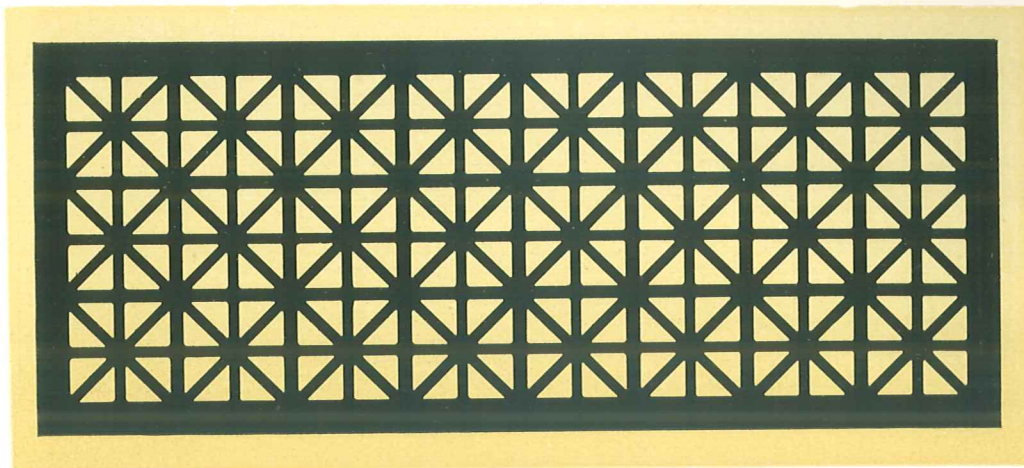
GRECIAN, 3"



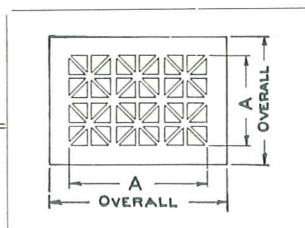
47% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$6\frac{3}{8}$	13	$43\frac{1}{2}$	25	84	37	$124\frac{1}{2}$
3	$9\frac{3}{4}$	14	$46\frac{7}{8}$	26	$87\frac{3}{8}$	38	$127\frac{7}{8}$
4	$13\frac{1}{8}$	15	$50\frac{1}{4}$	27	$90\frac{3}{4}$	39	$131\frac{1}{4}$
5	$16\frac{1}{2}$	16	$53\frac{5}{8}$	28	$94\frac{1}{8}$	40	$134\frac{5}{8}$
6	$19\frac{7}{8}$	17	57	29	$97\frac{1}{2}$	41	138
7	$23\frac{1}{4}$	18	$60\frac{3}{8}$	30	$100\frac{7}{8}$	42	$141\frac{3}{8}$
8	$26\frac{5}{8}$	19	$63\frac{3}{4}$	31	$104\frac{1}{4}$	43	$144\frac{3}{4}$
9	30	20	$67\frac{1}{8}$	32	$107\frac{5}{8}$	44	$148\frac{1}{8}$
10	$33\frac{3}{8}$	21	$70\frac{1}{2}$	33	111	45	$151\frac{1}{2}$
11	$36\frac{3}{4}$	22	$73\frac{7}{8}$	34	$114\frac{3}{8}$		
12	$40\frac{1}{8}$	23	$77\frac{1}{4}$	35	$117\frac{3}{4}$		
		24	$80\frac{5}{8}$	36	$121\frac{1}{8}$		

Sizes depend on rolling mill limits.



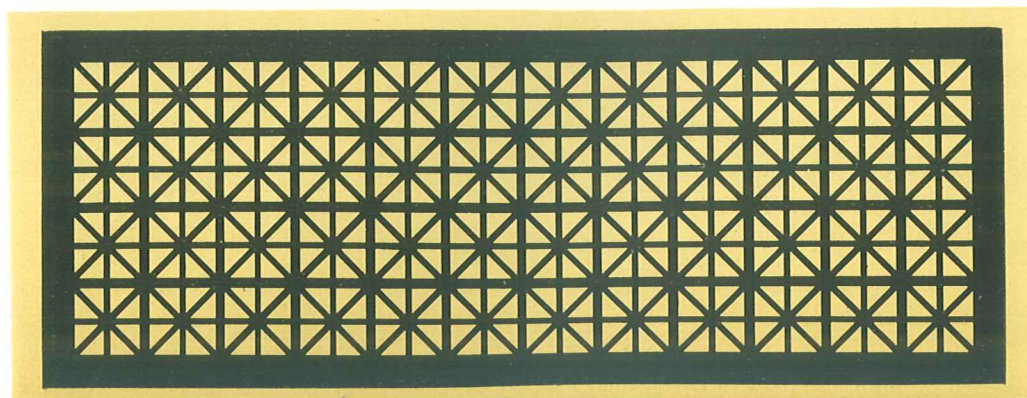
GRECIAN, 4"



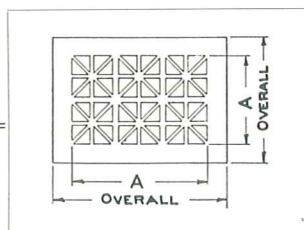
48 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	4	13	58	25	112
2	8½	14	62½	26	116½
3	13	15	67	27	121
4	17½	16	71½	28	125½
5	22	17	76	29	130
6	26½	18	80½	30	134½
7	31	19	85	31	139
8	35½	20	89½	32	143½
9	40	21	94	33	148
10	44½	22	98½	34	152½
11	49	23	103	35	157
12	53½	24	107½	36	161½

Sizes depend on rolling mill limits.



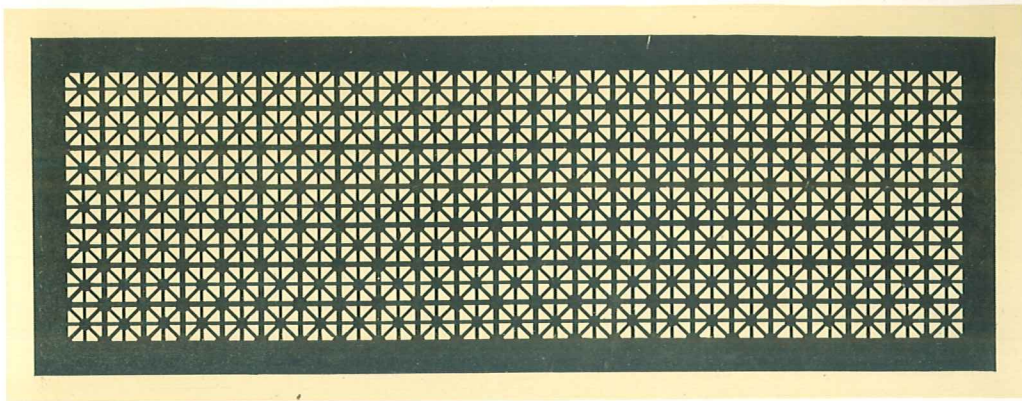
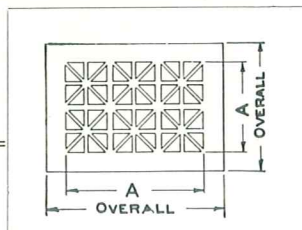
GRECIAN, 2½"



46 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	2½	13	37	25	71½	37	106
2	5⅜	14	39⅞	26	74⅜	38	108⅞
3	8¼	15	42¾	27	77¼	39	111¾
4	11⅛	16	45⅝	28	80⅛	40	114⅝
5	14	17	48½	29	83	41	117½
6	16⅞	18	51⅜	30	85⅞	42	120⅜
7	19¾	19	54¼	31	88¾	43	123¾
8	22⅝	20	57⅛	32	91⅝	44	126⅝
9	25½	21	60	33	94½	45	129
10	28⅜	22	62⅞	34	97⅜	46	131⅞
11	31¼	23	65¾	35	100¼	47	134¾
12	34⅛	24	68⅝	36	103⅛	48	137⅝

Sizes depend on rolling mill limits.

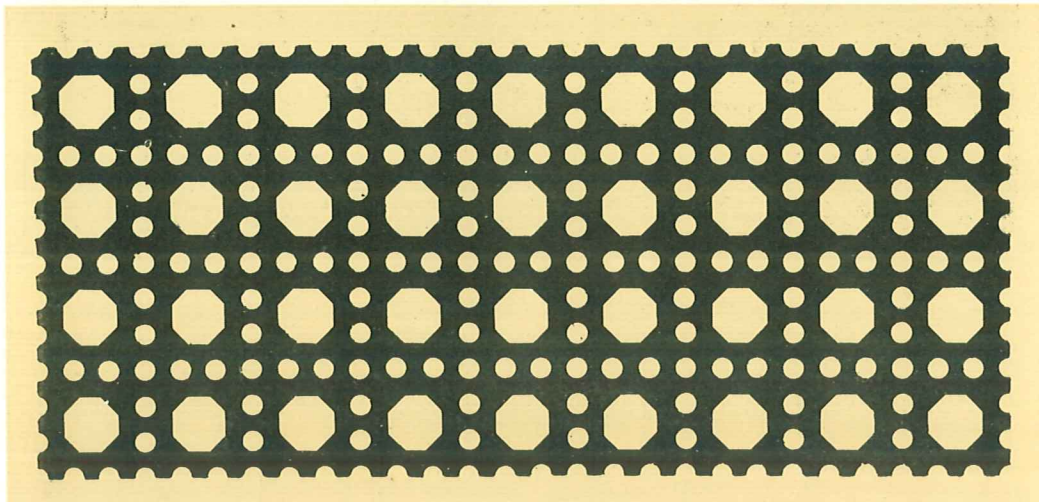
GRECIAN $1\frac{1}{4}"$ 

39% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	$1\frac{1}{4}$	21	30	41	$58\frac{3}{4}$	61	$87\frac{1}{2}$
2	$2\frac{1}{16}$	22	$31\frac{7}{16}$	42	$60\frac{3}{16}$	62	$88\frac{1}{8}$
3	$4\frac{1}{8}$	23	$32\frac{7}{8}$	43	$61\frac{5}{8}$	63	$90\frac{3}{8}$
4	$5\frac{9}{16}$	24	$34\frac{5}{16}$	44	$63\frac{1}{16}$	64	$91\frac{1}{8}$
5	7	25	$35\frac{3}{4}$	45	$64\frac{1}{2}$	65	$93\frac{1}{4}$
6	$8\frac{7}{16}$	26	$37\frac{3}{16}$	46	$65\frac{1}{8}$	66	$94\frac{1}{8}$
7	$9\frac{7}{8}$	27	$38\frac{5}{8}$	47	$67\frac{3}{8}$	67	$96\frac{1}{8}$
8	$11\frac{5}{16}$	28	$40\frac{1}{16}$	48	$68\frac{1}{8}$	68	$97\frac{9}{16}$
9	$12\frac{3}{4}$	29	$41\frac{1}{2}$	49	$70\frac{1}{4}$	69	99
10	$14\frac{3}{16}$	30	$42\frac{1}{8}$	50	$71\frac{1}{8}$	70	$100\frac{7}{16}$
11	$15\frac{5}{8}$	31	$44\frac{3}{8}$	51	$73\frac{1}{8}$	71	$101\frac{7}{8}$
12	$17\frac{1}{16}$	32	$45\frac{1}{8}$	52	$74\frac{9}{16}$	72	$103\frac{5}{16}$
13	$18\frac{1}{2}$	33	$47\frac{1}{4}$	53	76	73	$104\frac{3}{4}$
14	$19\frac{5}{16}$	34	$48\frac{1}{8}$	54	$77\frac{7}{16}$	74	$106\frac{3}{16}$
15	$21\frac{3}{8}$	35	$50\frac{1}{8}$	55	$78\frac{7}{8}$	75	$107\frac{5}{8}$
16	$22\frac{3}{16}$	36	$51\frac{9}{16}$	56	$80\frac{5}{16}$	76	$109\frac{1}{16}$
17	$24\frac{1}{4}$	37	53	57	$81\frac{3}{4}$	77	$110\frac{1}{2}$
18	$25\frac{1}{16}$	38	$54\frac{1}{16}$	58	$83\frac{3}{16}$	78	$111\frac{1}{8}$
19	$27\frac{1}{8}$	39	$55\frac{7}{8}$	59	$84\frac{5}{8}$	79	$113\frac{3}{8}$
20	$28\frac{9}{16}$	40	$57\frac{5}{16}$	60	$86\frac{1}{16}$	80	$114\frac{1}{8}$

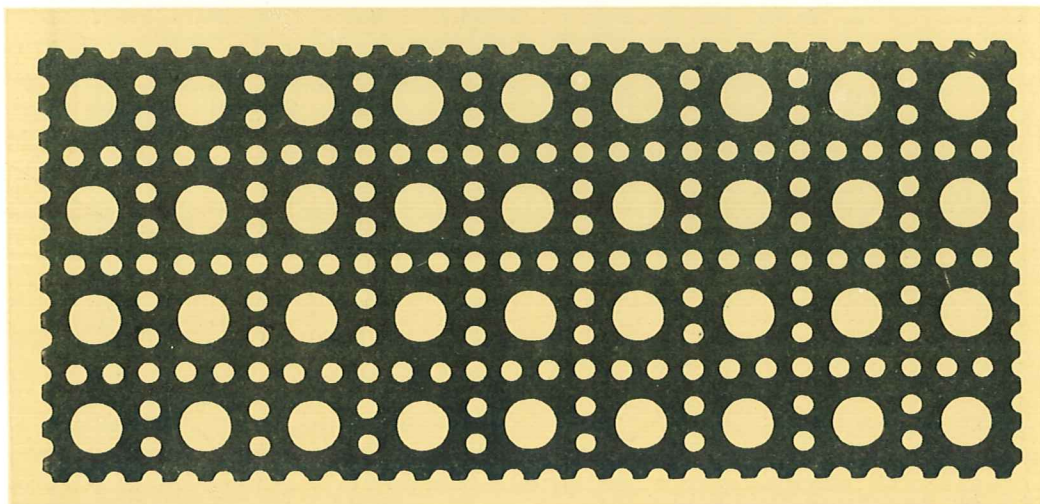
Sizes depend on rolling mill limits.

CANE



Style A

36% Open Area

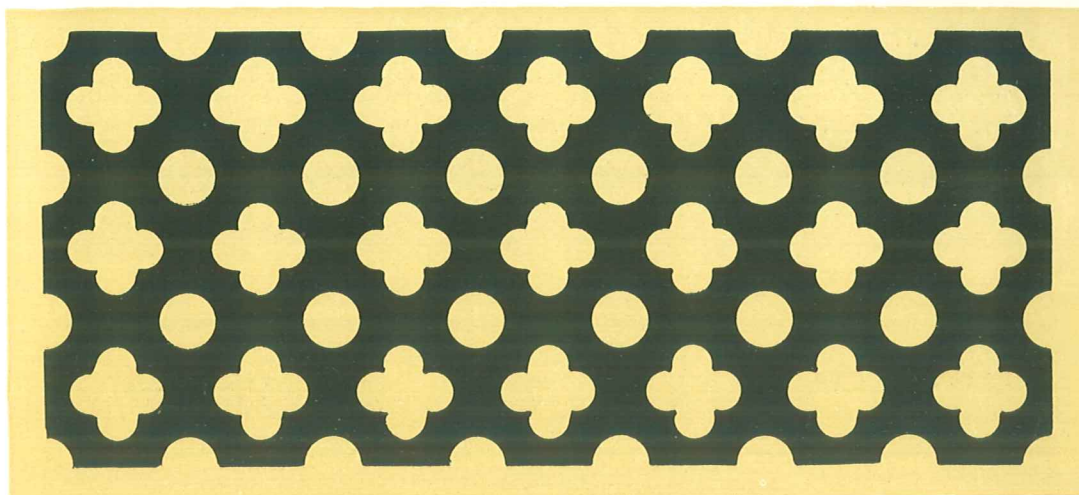


Style B

27% Open Area

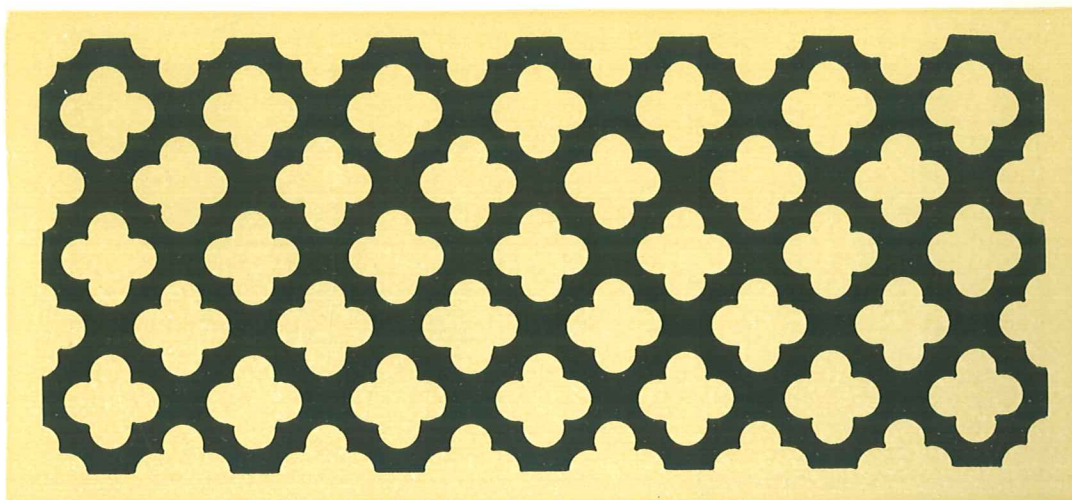
Note: Above illustrations are full size.

CLOVERLEAF



Style A

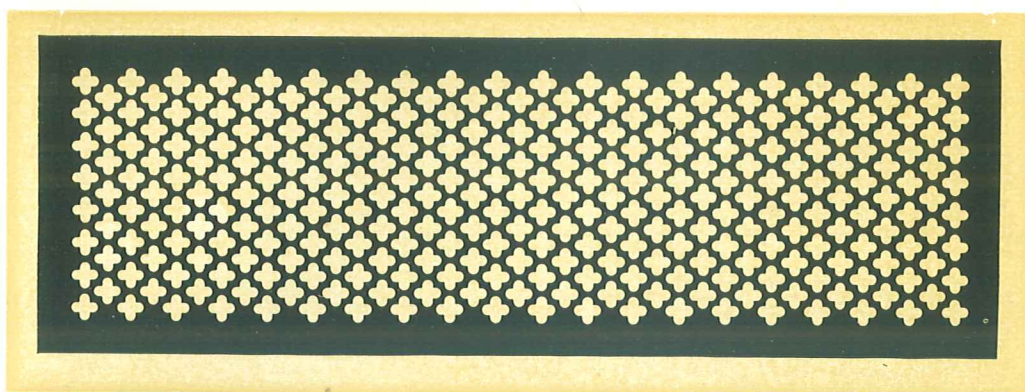
40% Open Area



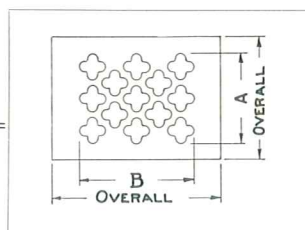
Style B

51% Open Area

Note: Above illustrations are full size.



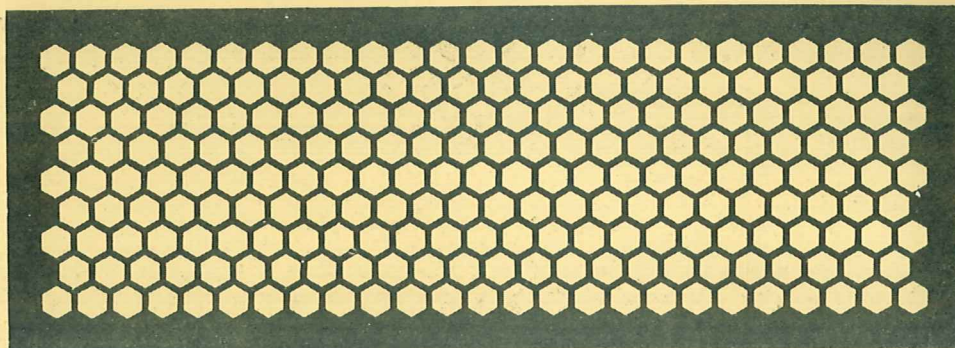
CLOVERLEAF, 1"



50 % Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	1	1	21	26	36	41	51	....
2	2 $\frac{1}{4}$	2 $\frac{3}{4}$	22	27 $\frac{1}{4}$	37 $\frac{3}{4}$	42	52 $\frac{1}{4}$	....
3	3 $\frac{1}{2}$	4 $\frac{1}{2}$	23	28 $\frac{1}{2}$	39 $\frac{1}{2}$	43	53 $\frac{1}{2}$	....
4	4 $\frac{3}{4}$	6 $\frac{1}{4}$	24	29 $\frac{3}{4}$	41 $\frac{1}{4}$	44	54 $\frac{3}{4}$	....
5	6	8	25	31	43	45	56	....
6	7 $\frac{1}{4}$	9 $\frac{3}{4}$	26	32 $\frac{1}{4}$	44 $\frac{3}{4}$	46	57 $\frac{1}{4}$	....
7	8 $\frac{1}{2}$	11 $\frac{1}{2}$	27	33 $\frac{1}{2}$	46 $\frac{1}{2}$	47	58 $\frac{1}{2}$	....
8	9 $\frac{3}{4}$	13 $\frac{1}{4}$	28	34 $\frac{3}{4}$	48 $\frac{1}{4}$	48	59 $\frac{3}{4}$	....
9	11	15	29	36	50	49	61	....
10	12 $\frac{1}{4}$	16 $\frac{3}{4}$	30	37 $\frac{1}{4}$	51 $\frac{3}{4}$	50	62 $\frac{1}{4}$	....
11	13 $\frac{1}{2}$	18 $\frac{1}{2}$	31	38 $\frac{1}{2}$	53 $\frac{1}{2}$	51	63 $\frac{1}{2}$	....
12	14 $\frac{3}{4}$	20 $\frac{1}{4}$	32	39 $\frac{3}{4}$	55 $\frac{1}{4}$	52	64 $\frac{3}{4}$	....
13	16	22	33	41	57	53	66	....
14	17 $\frac{1}{4}$	23 $\frac{3}{4}$	34	42 $\frac{1}{4}$	58 $\frac{3}{4}$	54	67 $\frac{1}{4}$	....
15	18 $\frac{1}{2}$	25 $\frac{1}{2}$	35	43 $\frac{1}{2}$	60 $\frac{1}{2}$	55	68 $\frac{1}{2}$	....
16	19 $\frac{3}{4}$	27 $\frac{1}{4}$	36	44 $\frac{3}{4}$	62 $\frac{1}{4}$	56	69 $\frac{3}{4}$	....
17	21	29	37	46	64	57	71	....
18	22 $\frac{1}{4}$	30 $\frac{3}{4}$	38	47 $\frac{1}{4}$	....	58	72 $\frac{1}{4}$	....
19	23 $\frac{1}{2}$	32 $\frac{1}{2}$	39	48 $\frac{1}{2}$	....	59	73 $\frac{1}{2}$	....
20	24 $\frac{3}{4}$	34 $\frac{1}{4}$	40	49 $\frac{3}{4}$	....	60	74 $\frac{3}{4}$	....

Sizes depend on rolling mill limits.



1" HEXAGON
1/4" BAR

64% Open Area

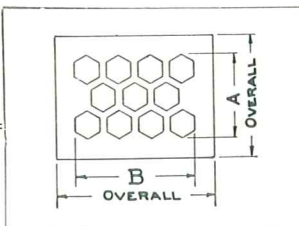
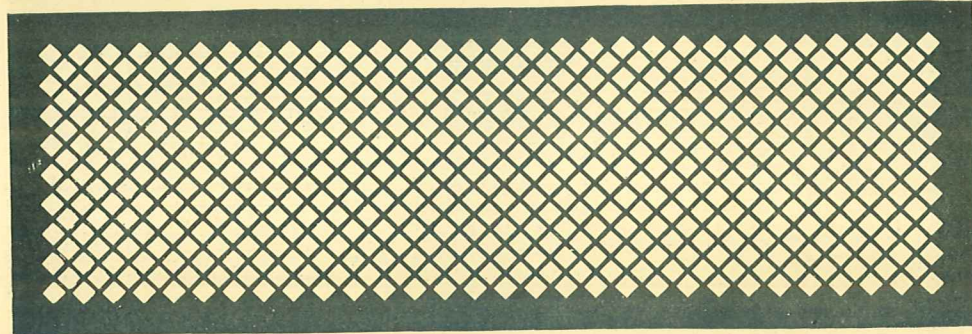


TABLE A

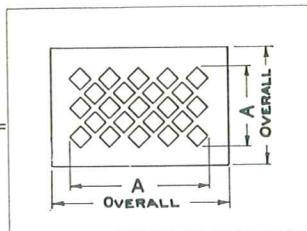
TABLE B

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	B Inches	No. of Holes	B Inches
1	1 $\frac{5}{32}$	49	53 $\frac{3}{32}$	1	1	25	31
3	3 $\frac{5}{16}$	51	55 $\frac{1}{4}$	2	2 $\frac{1}{4}$	26	32 $\frac{1}{4}$
5	5 $\frac{1}{2}$	53	57 $\frac{7}{16}$	3	3 $\frac{1}{2}$	27	33 $\frac{1}{2}$
7	7 $\frac{3}{8}$	55	59 $\frac{5}{8}$	4	4 $\frac{3}{4}$	28	34 $\frac{3}{4}$
9	9 $\frac{13}{16}$	57	61 $\frac{3}{4}$	5	6	29	36
11	11 $\frac{31}{32}$	59	63 $\frac{15}{16}$	6	7 $\frac{1}{4}$	30	37 $\frac{1}{4}$
13	14 $\frac{5}{32}$	61	66 $\frac{1}{16}$	7	8 $\frac{1}{2}$	31	38 $\frac{1}{2}$
15	16 $\frac{5}{16}$	63	68 $\frac{1}{4}$	8	9 $\frac{3}{4}$	32	39 $\frac{3}{4}$
17	18 $\frac{15}{32}$	65	70 $\frac{13}{32}$	9	11	33	41
19	20 $\frac{5}{8}$	67	72 $\frac{5}{16}$	10	12 $\frac{1}{4}$	34	42 $\frac{1}{4}$
21	22 $\frac{13}{16}$	69	74 $\frac{3}{4}$	11	13 $\frac{1}{2}$	35	43 $\frac{1}{2}$
23	24 $\frac{31}{32}$	71	76 $\frac{3}{8}$	12	14 $\frac{3}{4}$	36	44 $\frac{3}{4}$
25*	27 $\frac{1}{8}$	73	79 $\frac{1}{16}$	13	16	37	46
27	29 $\frac{9}{32}$	75	81 $\frac{1}{4}$	14	17 $\frac{1}{4}$	38	47 $\frac{1}{4}$
29	31 $\frac{15}{32}$	77	83 $\frac{1}{8}$	15	18 $\frac{1}{2}$	39	48 $\frac{1}{2}$
31	33 $\frac{5}{8}$	79	85 $\frac{1}{2}$	16	19 $\frac{3}{4}$	40	49 $\frac{3}{4}$
33	35 $\frac{25}{32}$	81	87 $\frac{23}{32}$	17	21	41	51
35	37 $\frac{15}{16}$	83	89 $\frac{7}{8}$	18	22 $\frac{1}{4}$	42	52 $\frac{1}{4}$
37	40 $\frac{1}{8}$	85	92 $\frac{1}{16}$	19	23 $\frac{1}{2}$	43	53 $\frac{1}{2}$
39	42 $\frac{9}{32}$	87	94 $\frac{1}{4}$	20	24 $\frac{3}{4}$	44	54 $\frac{3}{4}$
41	44 $\frac{15}{32}$	89	96 $\frac{3}{8}$	21	26	45	56
43	46 $\frac{5}{8}$	91	98 $\frac{17}{32}$	22	27 $\frac{1}{4}$	46	57 $\frac{1}{4}$
45	48 $\frac{3}{4}$	93	100 $\frac{3}{4}$	23	28 $\frac{1}{2}$	47	58 $\frac{1}{2}$
47	50 $\frac{15}{16}$	95	102 $\frac{7}{8}$	24	29 $\frac{3}{4}$	48	59 $\frac{3}{4}$

Sizes depend on rolling mill limits.
The above dimensions are correct to the nearest $\frac{1}{32}$ ".



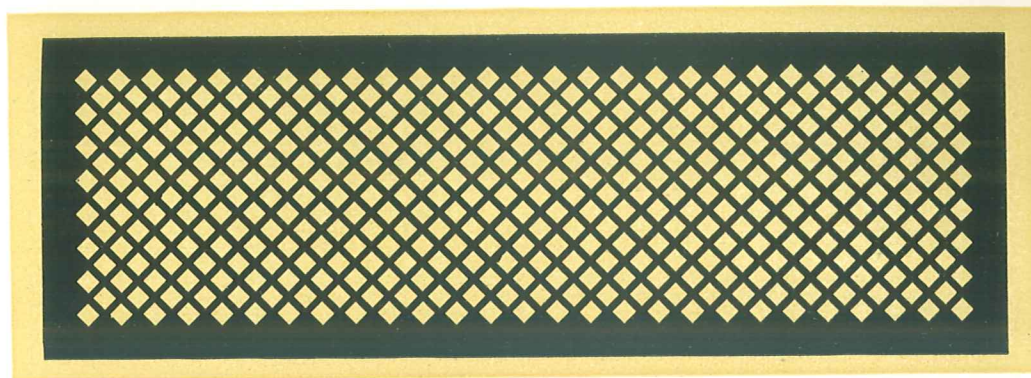
$\frac{5}{8}$ " DIAMOND
 $\frac{7}{32}$ " BAR



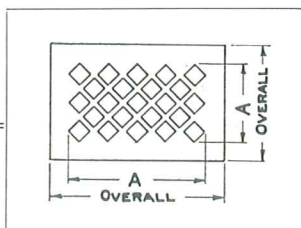
55% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$2\frac{1}{16}$	26	$30\frac{9}{16}$	50	$59\frac{1}{16}$	74	$87\frac{9}{16}$	98	$116\frac{1}{16}$
3	$3\frac{1}{4}$	27	$31\frac{3}{4}$	51	$60\frac{1}{4}$	75	$88\frac{3}{4}$	99	$117\frac{1}{4}$
4	$4\frac{7}{16}$	28	$32\frac{5}{16}$	52	$61\frac{7}{16}$	76	$89\frac{5}{16}$	100	$118\frac{5}{16}$
5	$5\frac{5}{8}$	29	$34\frac{1}{8}$	53	$62\frac{5}{8}$	77	$91\frac{1}{8}$	101	$119\frac{5}{8}$
6	$6\frac{13}{16}$	30	$35\frac{5}{16}$	54	$63\frac{13}{16}$	78	$92\frac{5}{16}$	102	$120\frac{13}{16}$
7	8	31	$36\frac{1}{2}$	55	65	79	$93\frac{1}{2}$	103	122
8	$9\frac{3}{16}$	32	$37\frac{1}{16}$	56	$66\frac{3}{16}$	80	$94\frac{1}{16}$	104	$123\frac{3}{16}$
9	$10\frac{3}{8}$	33	$38\frac{3}{8}$	57	$67\frac{3}{8}$	81	$95\frac{3}{8}$	105	$124\frac{3}{8}$
10	$11\frac{9}{16}$	34	$40\frac{1}{16}$	58	$68\frac{9}{16}$	82	$97\frac{1}{16}$	106	$125\frac{9}{16}$
11	$12\frac{3}{4}$	35	$41\frac{1}{4}$	59	$69\frac{3}{4}$	83	$98\frac{1}{4}$	107	$126\frac{3}{4}$
12	$13\frac{15}{16}$	36	$42\frac{7}{16}$	60	$70\frac{15}{16}$	84	$99\frac{15}{16}$	108	$127\frac{15}{16}$
13	$15\frac{1}{8}$	37	$43\frac{5}{8}$	61	$72\frac{1}{8}$	85	$100\frac{5}{8}$	109	$129\frac{1}{8}$
14	$16\frac{5}{16}$	38	$44\frac{13}{16}$	62	$73\frac{5}{16}$	86	$101\frac{13}{16}$	110	$130\frac{5}{16}$
15	$17\frac{1}{2}$	39	46	63	$74\frac{1}{2}$	87	103	111	$131\frac{1}{2}$
16	$18\frac{1}{4}$	40	$47\frac{3}{16}$	64	$75\frac{1}{16}$	88	$104\frac{3}{16}$	112	$132\frac{1}{16}$
17	$19\frac{7}{8}$	41	$48\frac{3}{8}$	65	$76\frac{7}{8}$	89	$105\frac{3}{8}$	113	$133\frac{7}{8}$
18	$21\frac{1}{16}$	42	$49\frac{9}{16}$	66	$78\frac{1}{16}$	90	$106\frac{9}{16}$	114	$135\frac{1}{16}$
19	$22\frac{1}{4}$	43	$50\frac{3}{4}$	67	$79\frac{1}{4}$	91	$107\frac{3}{4}$	115	$136\frac{1}{4}$
20	$23\frac{7}{16}$	44	$51\frac{15}{16}$	68	$80\frac{7}{16}$	92	$108\frac{7}{16}$	116	$137\frac{7}{16}$
21	$24\frac{5}{8}$	45	$53\frac{1}{8}$	69	$81\frac{5}{8}$	93	$110\frac{1}{8}$	117	$138\frac{5}{8}$
22	$25\frac{13}{16}$	46	$54\frac{5}{16}$	70	$82\frac{13}{16}$	94	$111\frac{5}{16}$	118	$139\frac{13}{16}$
23	27	47	$55\frac{1}{2}$	71	84	95	$112\frac{1}{2}$	119	141
24	$28\frac{3}{16}$	48	$56\frac{11}{16}$	72	$85\frac{3}{16}$	96	$113\frac{11}{16}$	120	$142\frac{3}{16}$
25	$29\frac{3}{8}$	49	$57\frac{3}{8}$	73	$86\frac{3}{8}$	97	$114\frac{3}{8}$		

Sizes depend on rolling mill limits.



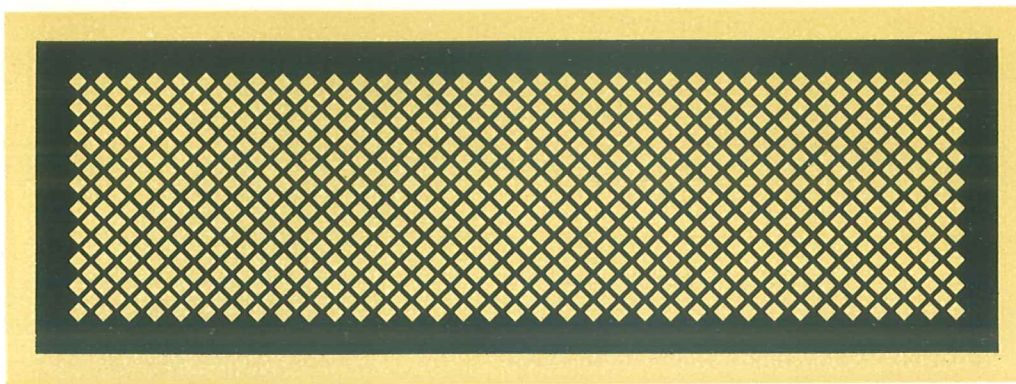
$\frac{5}{8}$ " DIAMOND
 $\frac{1}{4}$ " BAR



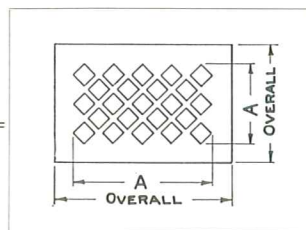
51 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$2\frac{1}{8}$	26	$31\frac{13}{16}$	50	$61\frac{33}{64}$	74	$91\frac{7}{32}$	98	$120\frac{59}{64}$
3	$3\frac{3}{8}$	27	$33\frac{1}{16}$	51	$62\frac{3}{4}$	75	$92\frac{29}{64}$	99	$122\frac{5}{32}$
4	$4\frac{3}{4}$	28	$34\frac{9}{32}$	52	64	76	$93\frac{45}{64}$	100	$123\frac{25}{64}$
5	$5\frac{5}{8}$	29	$35\frac{17}{32}$	53	$65\frac{1}{4}$	77	$94\frac{59}{64}$	101	$124\frac{5}{8}$
6	$7\frac{5}{16}$	30	$36\frac{3}{4}$	54	$66\frac{15}{32}$	78	$96\frac{11}{64}$	102	$125\frac{55}{64}$
7	$8\frac{5}{16}$	31	38	55	$67\frac{45}{64}$	79	$97\frac{13}{32}$	103	$127\frac{7}{64}$
8	$9\frac{3}{8}$	32	$39\frac{1}{4}$	56	$68\frac{15}{16}$	80	$98\frac{41}{64}$	104	$128\frac{11}{32}$
9	$10\frac{3}{4}$	33	$40\frac{31}{64}$	57	$70\frac{11}{64}$	81	$99\frac{7}{8}$	105	$129\frac{37}{64}$
10	$12\frac{1}{32}$	34	$41\frac{23}{32}$	58	$71\frac{27}{64}$	82	$101\frac{7}{64}$	106	$130\frac{13}{16}$
11	$13\frac{1}{4}$	35	$42\frac{3}{4}$	59	$72\frac{21}{32}$	83	$102\frac{23}{64}$	107	$132\frac{1}{16}$
12	$14\frac{1}{2}$	36	$44\frac{13}{64}$	60	$73\frac{57}{64}$	84	$103\frac{19}{32}$	108	$133\frac{9}{32}$
13	$15\frac{47}{64}$	37	$45\frac{7}{16}$	61	$75\frac{1}{8}$	85	$104\frac{53}{64}$	109	$134\frac{17}{32}$
14	$16\frac{31}{32}$	38	$46\frac{43}{64}$	62	$76\frac{3}{8}$	86	$106\frac{1}{16}$	110	$135\frac{49}{64}$
15	$18\frac{13}{64}$	39	$47\frac{29}{32}$	63	$77\frac{39}{64}$	87	$107\frac{5}{16}$	111	137
16	$19\frac{7}{16}$	40	$49\frac{9}{64}$	64	$78\frac{27}{32}$	88	$108\frac{35}{64}$	112	$138\frac{15}{64}$
17	$20\frac{11}{16}$	41	$50\frac{3}{8}$	65	$80\frac{5}{64}$	89	$109\frac{25}{32}$	113	$139\frac{31}{64}$
18	$21\frac{59}{64}$	42	$51\frac{5}{8}$	66	$81\frac{5}{16}$	90	$111\frac{1}{4}$	114	$140\frac{39}{32}$
19	$23\frac{37}{32}$	43	$52\frac{55}{64}$	67	$82\frac{9}{16}$	91	$112\frac{1}{4}$	115	$141\frac{61}{64}$
20	$24\frac{25}{64}$	44	$54\frac{37}{32}$	68	$83\frac{21}{64}$	92	$113\frac{1}{2}$	116	$143\frac{3}{16}$
21	$25\frac{9}{8}$	45	$55\frac{21}{64}$	69	$85\frac{1}{32}$	93	$114\frac{47}{64}$	117	$144\frac{27}{64}$
22	$26\frac{7}{8}$	46	$56\frac{9}{16}$	70	$86\frac{17}{64}$	94	$115\frac{31}{32}$	118	$145\frac{43}{64}$
23	$28\frac{7}{16}$	47	$57\frac{13}{16}$	71	$87\frac{1}{2}$	95	$117\frac{7}{32}$	119	$146\frac{59}{32}$
24	$29\frac{11}{32}$	48	$59\frac{3}{64}$	72	$88\frac{3}{4}$	96	$118\frac{7}{16}$	120	$148\frac{9}{64}$
25	$30\frac{37}{64}$	49	$60\frac{37}{32}$	73	$89\frac{43}{64}$	97	$119\frac{43}{64}$	121	$149\frac{5}{8}$

Sizes depend on rolling mill limits.
The above dimensions are correct to the nearest $\frac{1}{64}$ ".



$\frac{1}{2}$ " DIAMOND
 $\frac{3}{16}$ " BAR

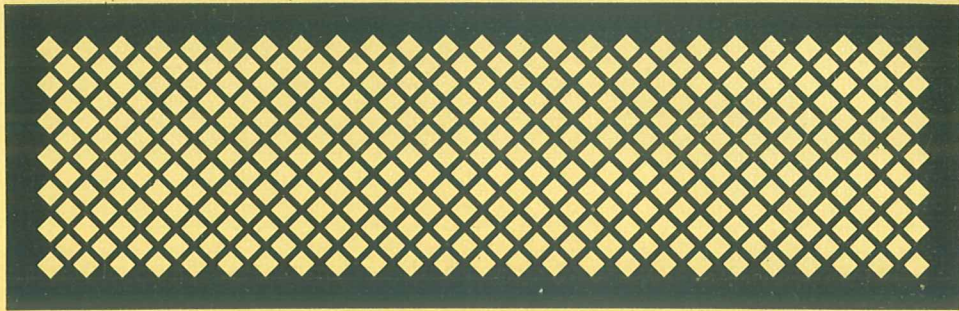


53 % Open Area

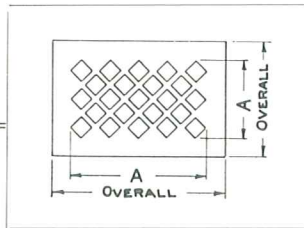
No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{43}{64}$	26	$25\frac{1}{64}$	50	$48\frac{23}{64}$	74	$71\frac{11}{16}$	98	$95\frac{1}{32}$
3	$2\frac{21}{32}$	27	$25\frac{63}{64}$	51	$49\frac{21}{64}$	75	$72\frac{43}{64}$	99	96
4	$3\frac{9}{8}$	28	$26\frac{31}{32}$	52	$50\frac{19}{64}$	76	$73\frac{41}{64}$	100	$96\frac{63}{64}$
5	$4\frac{19}{32}$	29	$27\frac{15}{16}$	53	$51\frac{17}{64}$	77	$74\frac{39}{64}$	101	$97\frac{61}{64}$
6	$5\frac{9}{16}$	30	$28\frac{29}{32}$	54	$52\frac{1}{4}$	78	$75\frac{37}{64}$	102	$98\frac{59}{64}$
7	$6\frac{35}{64}$	31	$29\frac{7}{8}$	55	$53\frac{37}{32}$	79	$76\frac{9}{16}$	103	$99\frac{57}{64}$
8	$7\frac{33}{64}$	32	$30\frac{55}{64}$	56	$54\frac{3}{16}$	80	$77\frac{17}{32}$	104	$100\frac{55}{64}$
9	$8\frac{31}{64}$	33	$31\frac{23}{64}$	57	$55\frac{5}{32}$	81	$78\frac{1}{2}$	105	$101\frac{27}{32}$
10	$9\frac{29}{64}$	34	$32\frac{21}{64}$	58	$56\frac{9}{64}$	82	$79\frac{15}{32}$	106	$102\frac{13}{16}$
11	$10\frac{7}{16}$	35	$33\frac{49}{64}$	59	$57\frac{7}{16}$	83	$80\frac{7}{16}$	107	$103\frac{25}{32}$
12	$11\frac{13}{32}$	36	$34\frac{17}{64}$	60	$58\frac{3}{64}$	84	$81\frac{27}{64}$	108	$104\frac{3}{4}$
13	$12\frac{3}{8}$	37	$35\frac{33}{32}$	61	$59\frac{3}{64}$	85	$82\frac{25}{64}$	109	$105\frac{47}{64}$
14	$13\frac{11}{32}$	38	$36\frac{11}{16}$	62	$60\frac{1}{32}$	86	$83\frac{23}{64}$	110	$106\frac{45}{64}$
15	$14\frac{21}{64}$	39	$37\frac{21}{32}$	63	61	87	$84\frac{21}{64}$	111	$107\frac{43}{64}$
16	$15\frac{19}{64}$	40	$38\frac{9}{8}$	64	$61\frac{31}{32}$	88	$85\frac{5}{16}$	112	$108\frac{41}{64}$
17	$16\frac{17}{64}$	41	$39\frac{39}{64}$	65	$62\frac{15}{16}$	89	$86\frac{9}{32}$	113	$109\frac{39}{64}$
18	$17\frac{15}{64}$	42	$40\frac{37}{64}$	66	$63\frac{29}{32}$	90	$87\frac{1}{4}$	114	$110\frac{19}{32}$
19	$18\frac{7}{32}$	43	$41\frac{25}{64}$	67	$64\frac{27}{64}$	91	$88\frac{7}{32}$	115	$111\frac{9}{16}$
20	$19\frac{3}{16}$	44	$42\frac{23}{64}$	68	$65\frac{55}{64}$	92	$89\frac{13}{64}$	116	$112\frac{17}{32}$
21	$20\frac{5}{32}$	45	$43\frac{1}{2}$	69	$66\frac{53}{64}$	93	$90\frac{11}{64}$	117	$113\frac{1}{2}$
22	$21\frac{1}{8}$	46	$44\frac{15}{32}$	70	$67\frac{13}{16}$	94	$91\frac{9}{64}$	118	$114\frac{31}{64}$
23	$22\frac{7}{64}$	47	$45\frac{7}{16}$	71	$68\frac{25}{32}$	95	$92\frac{7}{64}$	119	$115\frac{29}{64}$
24	$23\frac{5}{64}$	48	$46\frac{3}{32}$	72	$69\frac{3}{4}$	96	$93\frac{5}{64}$	120	$116\frac{27}{64}$
25	$24\frac{3}{64}$	49	$47\frac{3}{8}$	73	$70\frac{23}{32}$	97	$94\frac{1}{16}$	121	$117\frac{25}{64}$

Sizes depend on rolling mill limits.

The above dimensions are correct to the nearest $\frac{1}{64}$ ".



$\frac{3}{4}$ " DIAMOND
 $\frac{1}{4}$ " BAR

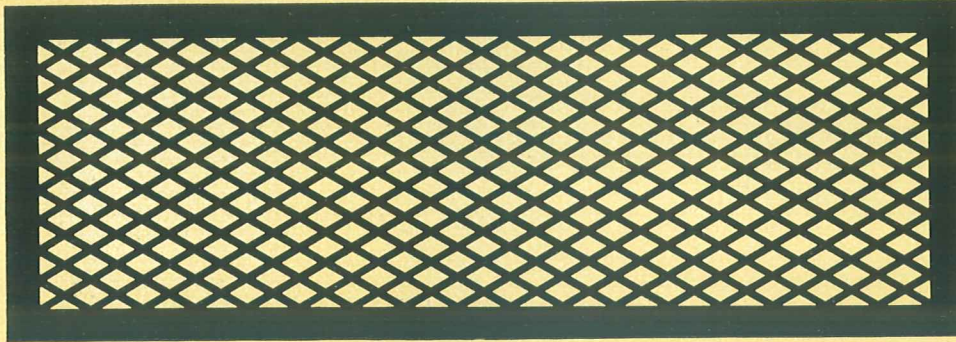


56 % Open Area

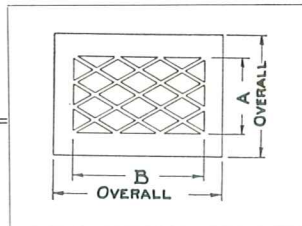
No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$2\frac{1}{2}$	22	$30\frac{3}{4}$	42	$59\frac{1}{2}$	62	$87\frac{21}{64}$	82	$115\frac{39}{64}$
3	$3\frac{3}{4}$	23	$32\frac{11}{64}$	43	$60\frac{29}{64}$	63	$88\frac{47}{64}$	83	$117\frac{1}{64}$
4	$5\frac{19}{64}$	24	$33\frac{37}{64}$	44	$61\frac{7}{8}$	64	$90\frac{5}{32}$	84	$118\frac{7}{16}$
5	$6\frac{3}{2}$	25	35	45	$63\frac{9}{32}$	65	$91\frac{9}{16}$	85	$119\frac{27}{32}$
6	$8\frac{1}{8}$	26	$36\frac{13}{32}$	46	$64\frac{45}{64}$	66	$92\frac{63}{64}$	86	$121\frac{1}{4}$
7	$9\frac{35}{64}$	27	$37\frac{53}{64}$	47	$66\frac{7}{64}$	67	$94\frac{25}{64}$	87	$122\frac{43}{64}$
8	$10\frac{11}{64}$	28	$39\frac{15}{64}$	48	$67\frac{23}{64}$	68	$95\frac{13}{16}$	88	$124\frac{3}{32}$
9	$12\frac{3}{8}$	29	$40\frac{21}{32}$	49	$68\frac{15}{16}$	69	$97\frac{7}{32}$	89	$125\frac{1}{2}$
10	$13\frac{5}{32}$	30	$42\frac{1}{16}$	50	$70\frac{23}{64}$	70	$98\frac{41}{64}$	90	$126\frac{59}{64}$
11	$15\frac{13}{64}$	31	$43\frac{31}{64}$	51	$71\frac{29}{64}$	71	$100\frac{3}{64}$	91	$128\frac{21}{64}$
12	$16\frac{29}{64}$	32	$44\frac{57}{64}$	52	$73\frac{11}{64}$	72	$101\frac{15}{32}$	92	$129\frac{37}{64}$
13	$18\frac{1}{32}$	33	$46\frac{5}{16}$	53	$74\frac{9}{32}$	73	$102\frac{7}{8}$	93	$131\frac{5}{32}$
14	$19\frac{7}{16}$	34	$47\frac{23}{32}$	54	76	74	$104\frac{9}{32}$	94	$132\frac{37}{64}$
15	$20\frac{35}{64}$	35	$49\frac{9}{64}$	55	$77\frac{27}{64}$	75	$105\frac{45}{64}$	95	$133\frac{53}{64}$
16	$22\frac{17}{64}$	36	$50\frac{9}{16}$	56	$78\frac{27}{32}$	76	$107\frac{1}{8}$	96	$135\frac{13}{32}$
17	$23\frac{1}{16}$	37	$51\frac{31}{32}$	57	$80\frac{1}{4}$	77	$108\frac{17}{32}$	97	$136\frac{13}{16}$
18	$25\frac{3}{32}$	38	$53\frac{3}{8}$	58	$81\frac{43}{64}$	78	$109\frac{51}{64}$	98	$138\frac{15}{64}$
19	$26\frac{33}{64}$	39	$54\frac{51}{64}$	59	$83\frac{5}{64}$	79	$111\frac{23}{64}$	99	$139\frac{41}{64}$
20	$27\frac{59}{64}$	40	$56\frac{7}{32}$	60	$84\frac{1}{2}$	80	$112\frac{35}{32}$	100	$141\frac{1}{16}$
21	$29\frac{11}{32}$	41	$57\frac{5}{8}$	61	$85\frac{29}{32}$	81	$114\frac{3}{16}$	101	$142\frac{15}{32}$

Sizes depend on rolling mill limits.

The above dimensions are correct to the nearest $\frac{1}{64}$ ".



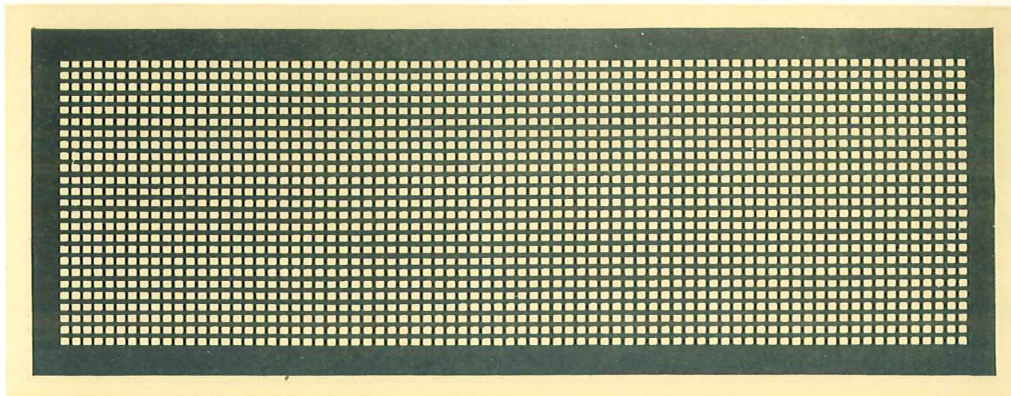
$\frac{7}{8}$ " x $1\frac{1}{2}$ "
DIAMOND



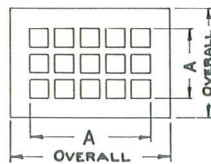
67 % Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$1\frac{9}{32}$	$2\frac{1}{8}$	41	$24\frac{13}{32}$	$42\frac{1}{8}$	81	$47\frac{17}{32}$	$82\frac{1}{8}$
3	$2\frac{7}{16}$	$4\frac{1}{8}$	43	$25\frac{9}{16}$	$44\frac{1}{8}$	83	$48\frac{11}{16}$	$84\frac{1}{8}$
5	$3\frac{19}{32}$	$6\frac{1}{8}$	45	$26\frac{23}{32}$	$46\frac{1}{8}$	85	$49\frac{27}{32}$	$86\frac{1}{8}$
7	$4\frac{3}{4}$	$8\frac{1}{8}$	47	$27\frac{7}{8}$	$48\frac{1}{8}$	87	51	$88\frac{1}{8}$
9	$5\frac{29}{32}$	$10\frac{1}{8}$	49	$29\frac{1}{32}$	$50\frac{1}{8}$	89	$52\frac{5}{32}$	$90\frac{1}{8}$
11	$7\frac{1}{16}$	$12\frac{1}{8}$	51	$30\frac{3}{16}$	$52\frac{1}{8}$	91	$53\frac{5}{16}$	$92\frac{1}{8}$
13	$8\frac{7}{32}$	$14\frac{1}{8}$	53	$31\frac{11}{32}$	$54\frac{1}{8}$	93	$54\frac{3}{32}$	$94\frac{1}{8}$
15	$9\frac{3}{8}$	$16\frac{1}{8}$	55	$32\frac{1}{2}$	$56\frac{1}{8}$	95	$55\frac{5}{8}$	$96\frac{1}{8}$
17	$10\frac{17}{32}$	$18\frac{1}{8}$	57	$33\frac{21}{32}$	$58\frac{1}{8}$	97	$56\frac{25}{32}$	$98\frac{1}{8}$
19	$11\frac{11}{16}$	$20\frac{1}{8}$	59	$34\frac{13}{16}$	$60\frac{1}{8}$	99	....	$100\frac{1}{8}$
21	$12\frac{27}{32}$	$22\frac{1}{8}$	61	$35\frac{31}{32}$	$62\frac{1}{8}$	101	....	$102\frac{1}{8}$
23	14	$24\frac{1}{8}$	63	$37\frac{1}{8}$	$64\frac{1}{8}$	103	....	$104\frac{1}{8}$
25	$15\frac{5}{32}$	$26\frac{1}{8}$	65	$38\frac{9}{32}$	$66\frac{1}{8}$	105	....	$106\frac{1}{8}$
27	$16\frac{1}{16}$	$28\frac{1}{8}$	67	$39\frac{7}{16}$	$68\frac{1}{8}$	107	....	$108\frac{1}{8}$
29	$17\frac{15}{32}$	$30\frac{1}{8}$	69	$40\frac{19}{32}$	$70\frac{1}{8}$	109	....	$110\frac{1}{8}$
31	$18\frac{5}{8}$	$32\frac{1}{8}$	71	$41\frac{3}{4}$	$72\frac{1}{8}$	111	....	$112\frac{1}{8}$
33	$19\frac{29}{32}$	$34\frac{1}{8}$	73	$42\frac{3}{32}$	$74\frac{1}{8}$	113	....	$114\frac{1}{8}$
35	$20\frac{15}{16}$	$36\frac{1}{8}$	75	$44\frac{1}{16}$	$76\frac{1}{8}$	115	....	$116\frac{1}{8}$
37	$22\frac{3}{32}$	$38\frac{1}{8}$	77	$45\frac{7}{32}$	$78\frac{1}{8}$	117	....	$118\frac{1}{8}$
39	$23\frac{1}{4}$	$40\frac{1}{8}$	79	$46\frac{3}{8}$	$80\frac{1}{8}$	119	....	$120\frac{1}{8}$

Sizes depend on rolling mill limits.



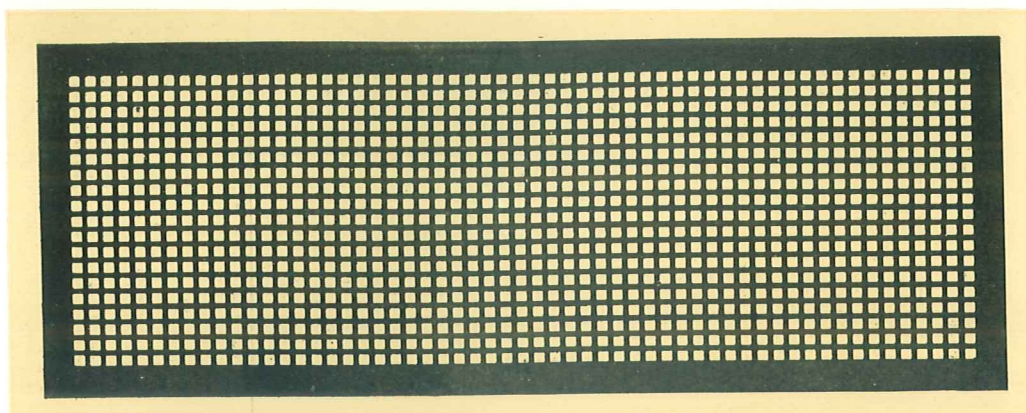
$\frac{1}{4}$ " SQUARE
 $\frac{3}{16}$ " BAR



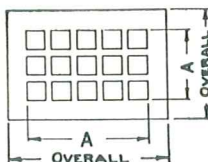
33% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$\frac{11}{16}$	27	$11\frac{5}{8}$	52	$22\frac{9}{16}$	77	$33\frac{1}{2}$	102	$44\frac{7}{8}$
3	$1\frac{1}{8}$	28	$12\frac{1}{16}$	53	23	78	$33\frac{5}{8}$	103	$44\frac{7}{8}$
4	$1\frac{9}{16}$	29	$12\frac{1}{2}$	54	$23\frac{7}{16}$	79	$34\frac{3}{8}$	104	$45\frac{5}{16}$
5	2	30	$12\frac{5}{8}$	55	$23\frac{7}{8}$	80	$34\frac{3}{4}$	105	$45\frac{3}{4}$
6	$2\frac{7}{16}$	31	$13\frac{3}{8}$	56	$24\frac{5}{16}$	81	$35\frac{1}{4}$	106	$46\frac{3}{16}$
7	$2\frac{7}{8}$	32	$13\frac{3}{4}$	57	$24\frac{3}{4}$	82	$35\frac{1}{8}$	107	$46\frac{5}{8}$
8	$3\frac{5}{16}$	33	$14\frac{1}{4}$	58	$25\frac{3}{16}$	83	$36\frac{1}{8}$	108	$47\frac{1}{16}$
9	$3\frac{3}{4}$	34	$14\frac{1}{2}$	59	$25\frac{5}{8}$	84	$36\frac{9}{16}$	109	$47\frac{1}{2}$
10	$4\frac{3}{16}$	35	$15\frac{1}{8}$	60	$26\frac{1}{16}$	85	37	110	$47\frac{1}{8}$
11	$4\frac{5}{8}$	36	$15\frac{9}{16}$	61	$26\frac{1}{2}$	86	$37\frac{7}{16}$	111	$48\frac{3}{8}$
12	$5\frac{1}{16}$	37	16	62	$26\frac{1}{8}$	87	$37\frac{7}{8}$	112	$48\frac{1}{2}$
13	$5\frac{1}{2}$	38	$16\frac{7}{16}$	63	$27\frac{3}{8}$	88	$38\frac{5}{16}$	113	$49\frac{1}{4}$
14	$5\frac{1}{8}$	39	$16\frac{7}{8}$	64	$27\frac{1}{2}$	89	$38\frac{3}{4}$	114	$49\frac{1}{8}$
15	$6\frac{3}{8}$	40	$17\frac{5}{16}$	65	$28\frac{1}{4}$	90	$39\frac{1}{16}$	115	$50\frac{1}{8}$
16	$6\frac{1}{2}$	41	$17\frac{3}{4}$	66	$28\frac{1}{8}$	91	$39\frac{5}{8}$	116	$50\frac{3}{16}$
17	$7\frac{1}{4}$	42	$18\frac{3}{16}$	67	$29\frac{1}{8}$	92	$40\frac{1}{16}$	117	51
18	$7\frac{11}{16}$	43	$18\frac{5}{8}$	68	$29\frac{9}{16}$	93	$40\frac{1}{2}$	118	$51\frac{7}{8}$
19	$8\frac{1}{8}$	44	$19\frac{1}{16}$	69	30	94	$40\frac{5}{8}$	119	$51\frac{1}{2}$
20	$8\frac{9}{16}$	45	$19\frac{1}{2}$	70	$30\frac{7}{16}$	95	$41\frac{3}{8}$	120	$52\frac{5}{16}$
21	9	46	$19\frac{1}{8}$	71	$30\frac{7}{8}$	96	$41\frac{1}{4}$	121	$52\frac{3}{4}$
22	$9\frac{7}{16}$	47	$20\frac{3}{8}$	72	$31\frac{5}{16}$	97	$42\frac{1}{4}$	122	$53\frac{3}{16}$
23	$9\frac{7}{8}$	48	$20\frac{3}{4}$	73	$31\frac{3}{4}$	98	$42\frac{1}{2}$	123	$53\frac{5}{8}$
24	$10\frac{1}{8}$	49	$21\frac{1}{4}$	74	$32\frac{1}{8}$	99	$43\frac{1}{8}$	124	$54\frac{1}{16}$
25	$10\frac{3}{4}$	50	$21\frac{1}{2}$	75	$32\frac{5}{8}$	100	$43\frac{9}{16}$	125	$54\frac{1}{2}$
26	$11\frac{3}{16}$	51	$22\frac{1}{8}$	76	$33\frac{1}{16}$	101	44		

Sizes depend on rolling mill limits.



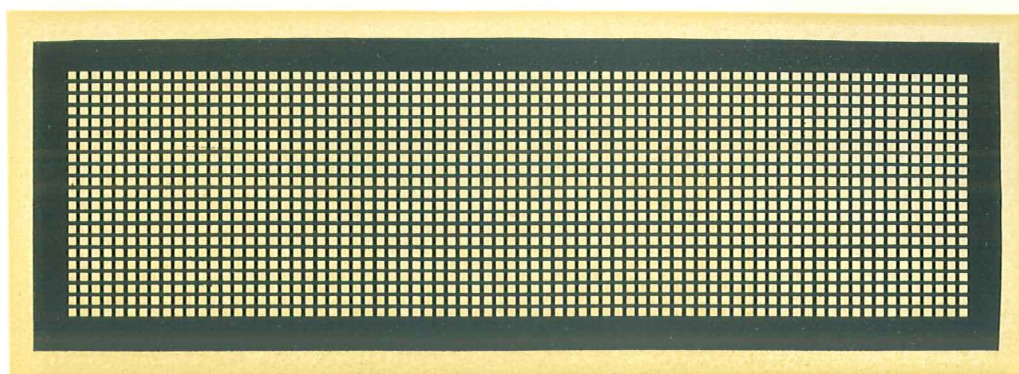
$\frac{3}{8}$ " SQUARE
 $\frac{7}{32}$ " BAR



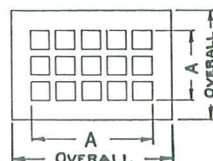
40% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$\frac{31}{32}$	27	$15\frac{13}{16}$	52	$30\frac{21}{32}$	77	$45\frac{1}{2}$	102	$60\frac{11}{32}$
3	$1\frac{9}{16}$	28	$16\frac{13}{32}$	53	$31\frac{1}{4}$	78	$46\frac{3}{32}$	103	$60\frac{15}{16}$
4	$2\frac{5}{32}$	29	17	54	$31\frac{27}{32}$	79	$46\frac{11}{16}$	104	$61\frac{13}{32}$
5	$2\frac{3}{4}$	30	$17\frac{19}{32}$	55	$32\frac{7}{16}$	80	$47\frac{9}{32}$	105	$62\frac{1}{8}$
6	$3\frac{11}{32}$	31	$18\frac{3}{16}$	56	$33\frac{1}{32}$	81	$47\frac{7}{8}$	106	$62\frac{23}{32}$
7	$3\frac{15}{16}$	32	$18\frac{25}{32}$	57	$33\frac{5}{8}$	82	$48\frac{15}{32}$	107	$63\frac{5}{16}$
8	$4\frac{17}{32}$	33	$19\frac{3}{8}$	58	$34\frac{7}{32}$	83	$49\frac{1}{16}$	108	$63\frac{29}{32}$
9	$5\frac{1}{8}$	34	$19\frac{11}{32}$	59	$34\frac{11}{16}$	84	$49\frac{21}{32}$	109	$64\frac{1}{2}$
10	$5\frac{23}{32}$	35	$20\frac{9}{16}$	60	$35\frac{13}{32}$	85	$50\frac{1}{4}$	110	$65\frac{3}{32}$
11	$6\frac{5}{16}$	36	$21\frac{5}{32}$	61	36	86	$50\frac{27}{32}$	111	$65\frac{11}{16}$
12	$6\frac{29}{32}$	37	$21\frac{3}{4}$	62	$36\frac{19}{32}$	87	$51\frac{7}{16}$	112	$66\frac{9}{32}$
13	$7\frac{1}{2}$	38	$22\frac{11}{32}$	63	$37\frac{3}{16}$	88	$52\frac{1}{32}$	113	$66\frac{7}{8}$
14	$8\frac{3}{8}$	39	$22\frac{15}{16}$	64	$37\frac{29}{32}$	89	$52\frac{5}{8}$	114	$67\frac{13}{32}$
15	$8\frac{11}{16}$	40	$23\frac{17}{32}$	65	$38\frac{3}{8}$	90	$53\frac{7}{32}$	115	$68\frac{1}{16}$
16	$9\frac{9}{32}$	41	$24\frac{1}{8}$	66	$38\frac{11}{32}$	91	$53\frac{11}{16}$	116	$68\frac{21}{32}$
17	$9\frac{7}{8}$	42	$24\frac{23}{32}$	67	$39\frac{9}{16}$	92	$54\frac{13}{32}$	117	$69\frac{1}{4}$
18	$10\frac{15}{32}$	43	$25\frac{5}{16}$	68	$40\frac{5}{32}$	93	55	118	$69\frac{27}{32}$
19	$11\frac{1}{16}$	44	$25\frac{29}{32}$	69	$40\frac{3}{4}$	94	$55\frac{19}{32}$	119	$70\frac{7}{16}$
20	$11\frac{21}{32}$	45	$26\frac{1}{2}$	70	$41\frac{11}{32}$	95	$56\frac{3}{16}$	120	$71\frac{1}{32}$
21	$12\frac{1}{4}$	46	$27\frac{3}{32}$	71	$41\frac{15}{16}$	96	$56\frac{29}{32}$	121	$71\frac{5}{8}$
22	$12\frac{27}{32}$	47	$27\frac{11}{16}$	72	$42\frac{17}{32}$	97	$57\frac{3}{8}$	122	$72\frac{7}{32}$
23	$13\frac{7}{16}$	48	$28\frac{9}{32}$	73	$43\frac{1}{8}$	98	$57\frac{31}{32}$	123	$72\frac{13}{16}$
24	$14\frac{3}{32}$	49	$28\frac{7}{8}$	74	$43\frac{5}{32}$	99	$58\frac{9}{16}$	124	$73\frac{13}{32}$
25	$14\frac{5}{8}$	50	$29\frac{15}{32}$	75	$44\frac{5}{16}$	100	$59\frac{3}{32}$	125	74
26	$15\frac{3}{32}$	51	$30\frac{1}{16}$	76	$44\frac{29}{32}$	101	$59\frac{3}{4}$		

Sizes depend on rolling mill limits.



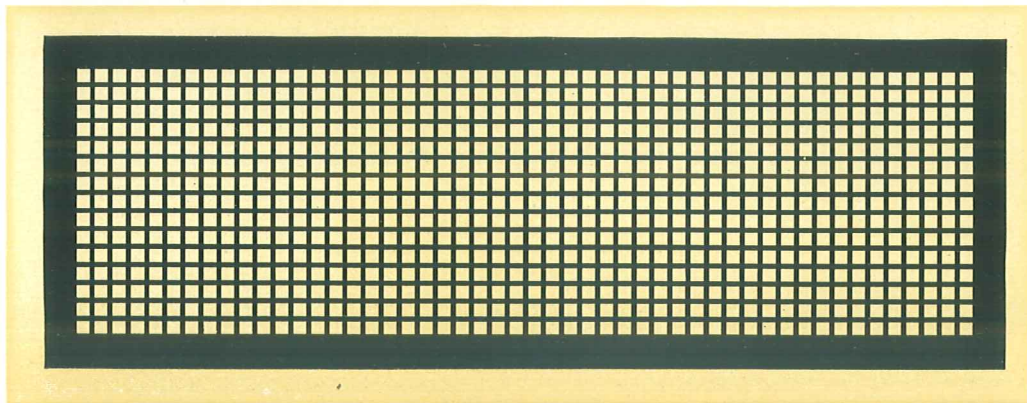
$\frac{5}{16}$ " SQUARE
 $\frac{5}{32}$ " BAR



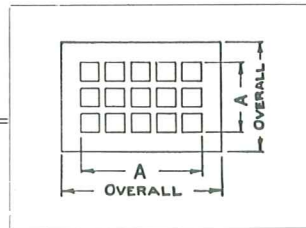
45 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$\frac{25}{32}$	27	$12\frac{1}{2}$	52	$24\frac{7}{32}$	77	$35\frac{15}{16}$	102	$47\frac{21}{32}$
3	$1\frac{1}{4}$	28	$12\frac{31}{32}$	53	$24\frac{11}{16}$	78	$36\frac{13}{32}$	103	$48\frac{1}{8}$
4	$1\frac{3}{8}$	29	$13\frac{7}{16}$	54	$25\frac{5}{32}$	79	$36\frac{7}{8}$	104	$48\frac{19}{32}$
5	$2\frac{3}{16}$	30	$13\frac{29}{32}$	55	$25\frac{9}{8}$	80	$37\frac{11}{32}$	105	$49\frac{1}{16}$
6	$2\frac{31}{32}$	31	$14\frac{3}{8}$	56	$26\frac{3}{32}$	81	$37\frac{1}{16}$	106	$49\frac{17}{32}$
7	$3\frac{1}{8}$	32	$14\frac{27}{32}$	57	$26\frac{9}{16}$	82	$38\frac{9}{32}$	107	50
8	$3\frac{19}{32}$	33	$15\frac{5}{16}$	58	$27\frac{1}{32}$	83	$38\frac{3}{4}$	108	$50\frac{15}{8}$
9	$4\frac{1}{16}$	34	$15\frac{25}{32}$	59	$27\frac{1}{2}$	84	$39\frac{7}{32}$	109	$50\frac{15}{16}$
10	$4\frac{17}{32}$	35	$16\frac{1}{4}$	60	$27\frac{31}{32}$	85	$39\frac{11}{16}$	110	$51\frac{13}{32}$
11	5	36	$16\frac{23}{32}$	61	$28\frac{7}{16}$	86	$40\frac{5}{32}$	111	$51\frac{7}{8}$
12	$5\frac{15}{32}$	37	$17\frac{3}{16}$	62	$28\frac{29}{32}$	87	$40\frac{9}{8}$	112	$52\frac{11}{32}$
13	$5\frac{19}{16}$	38	$17\frac{21}{32}$	63	$29\frac{3}{8}$	88	$41\frac{3}{32}$	113	$52\frac{13}{16}$
14	$6\frac{13}{32}$	39	$18\frac{1}{8}$	64	$29\frac{27}{32}$	89	$41\frac{9}{16}$	114	$53\frac{9}{32}$
15	$6\frac{7}{8}$	40	$18\frac{15}{32}$	65	$30\frac{5}{16}$	90	$42\frac{1}{32}$	115	$53\frac{3}{4}$
16	$7\frac{11}{32}$	41	$19\frac{1}{16}$	66	$30\frac{25}{32}$	91	$42\frac{1}{2}$	116	$54\frac{7}{32}$
17	$7\frac{13}{16}$	42	$19\frac{17}{32}$	67	$31\frac{1}{4}$	92	$42\frac{31}{32}$	117	$54\frac{11}{16}$
18	$8\frac{9}{32}$	43	20	68	$31\frac{23}{32}$	93	$43\frac{7}{16}$	118	$55\frac{5}{32}$
19	$8\frac{3}{4}$	44	$20\frac{15}{32}$	69	$32\frac{3}{16}$	94	$43\frac{29}{32}$	119	$55\frac{9}{8}$
20	$9\frac{3}{32}$	45	$20\frac{15}{16}$	70	$32\frac{21}{32}$	95	$44\frac{3}{8}$	120	$56\frac{3}{32}$
21	$9\frac{11}{16}$	46	$21\frac{13}{32}$	71	$33\frac{1}{8}$	96	$44\frac{27}{32}$	121	$56\frac{9}{16}$
22	$10\frac{5}{32}$	47	$21\frac{7}{8}$	72	$33\frac{19}{32}$	97	$45\frac{5}{16}$	122	$57\frac{1}{32}$
23	$10\frac{9}{8}$	48	$22\frac{1}{16}$	73	$34\frac{1}{16}$	98	$45\frac{25}{32}$	123	$57\frac{1}{2}$
24	$11\frac{3}{32}$	49	$22\frac{13}{16}$	74	$34\frac{17}{32}$	99	$46\frac{1}{4}$	124	$57\frac{31}{32}$
25	$11\frac{9}{16}$	50	$23\frac{9}{32}$	75	35	100	$46\frac{23}{32}$	125	$58\frac{1}{16}$
26	$12\frac{1}{32}$	51	$23\frac{3}{4}$	76	$35\frac{15}{32}$	101	$47\frac{3}{16}$	126	$58\frac{29}{32}$

Sizes depend on rolling mill limits.



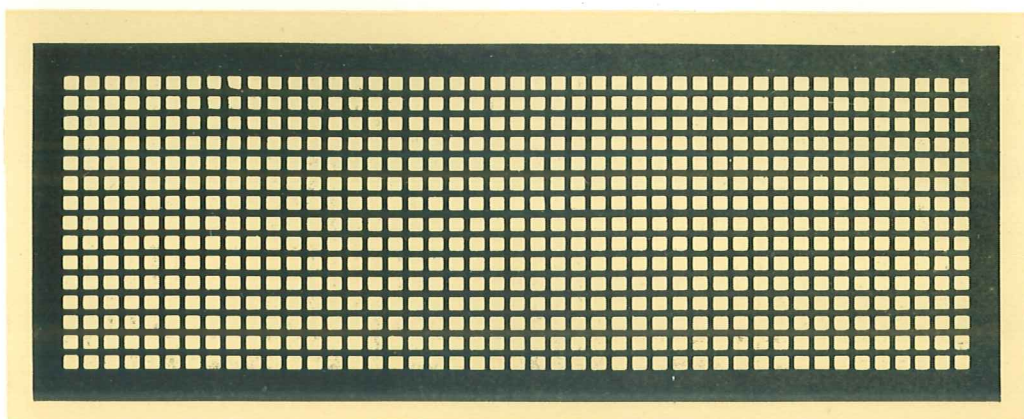
$\frac{1}{2}$ " SQUARE
 $\frac{3}{16}$ " BAR



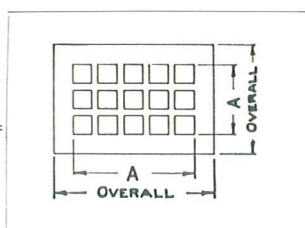
53 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{3}{16}$	27	$18\frac{3}{8}$	52	$35\frac{9}{16}$	77	$52\frac{3}{4}$	102	$69\frac{1}{8}$
3	$1\frac{7}{8}$	28	$19\frac{1}{16}$	53	$36\frac{1}{4}$	78	$53\frac{7}{16}$	103	$70\frac{5}{8}$
4	$2\frac{9}{16}$	29	$19\frac{3}{4}$	54	$36\frac{1}{8}$	79	$54\frac{1}{8}$	104	$71\frac{5}{16}$
5	$3\frac{1}{4}$	30	$20\frac{7}{16}$	55	$37\frac{5}{8}$	80	$54\frac{1}{2}$	105	72
6	$3\frac{1}{8}$	31	$21\frac{1}{8}$	56	$38\frac{5}{16}$	81	$55\frac{1}{2}$	106	$72\frac{1}{16}$
7	$4\frac{5}{8}$	32	$21\frac{3}{8}$	57	39	82	$56\frac{3}{16}$	107	$73\frac{3}{8}$
8	$5\frac{5}{16}$	33	$22\frac{1}{2}$	58	$39\frac{11}{16}$	83	$56\frac{7}{8}$	108	$74\frac{1}{16}$
9	6	34	$23\frac{3}{8}$	59	$40\frac{3}{8}$	84	$57\frac{9}{16}$	109	$74\frac{3}{4}$
10	$6\frac{11}{16}$	35	$23\frac{7}{8}$	60	$41\frac{1}{16}$	85	$58\frac{1}{4}$	110	$75\frac{7}{16}$
11	$7\frac{3}{8}$	36	$24\frac{9}{16}$	61	$41\frac{3}{4}$	86	$58\frac{1}{8}$	111	$76\frac{1}{8}$
12	$8\frac{1}{16}$	37	$25\frac{1}{4}$	62	$42\frac{7}{16}$	87	$59\frac{5}{8}$	112	$76\frac{1}{2}$
13	$8\frac{3}{4}$	38	$25\frac{5}{16}$	63	$43\frac{1}{8}$	88	$60\frac{5}{16}$	113	$77\frac{1}{2}$
14	$9\frac{7}{16}$	39	$26\frac{5}{8}$	64	$43\frac{3}{8}$	89	61	114	$78\frac{3}{16}$
15	$10\frac{1}{8}$	40	$27\frac{5}{16}$	65	$44\frac{1}{2}$	90	$61\frac{11}{16}$	115	$78\frac{7}{8}$
16	$10\frac{1}{2}$	41	28	66	$45\frac{3}{8}$	91	$62\frac{3}{8}$	116	$79\frac{9}{16}$
17	$11\frac{1}{2}$	42	$28\frac{1}{2}$	67	$45\frac{7}{8}$	92	$63\frac{1}{16}$	117	$80\frac{1}{4}$
18	$12\frac{3}{16}$	43	$29\frac{3}{8}$	68	$46\frac{9}{16}$	93	$63\frac{3}{4}$	118	$80\frac{1}{2}$
19	$12\frac{7}{8}$	44	$30\frac{1}{16}$	69	$47\frac{1}{4}$	94	$64\frac{1}{16}$	119	$81\frac{1}{8}$
20	$13\frac{9}{16}$	45	$30\frac{3}{4}$	70	$47\frac{1}{2}$	95	$65\frac{1}{8}$	120	$82\frac{1}{4}$
21	$14\frac{1}{4}$	46	$31\frac{1}{8}$	71	$48\frac{3}{8}$	96	$65\frac{1}{2}$	121	83
22	$14\frac{1}{2}$	47	$32\frac{1}{8}$	72	$49\frac{5}{16}$	97	$66\frac{1}{2}$	122	$83\frac{1}{2}$
23	$15\frac{5}{8}$	48	$32\frac{1}{2}$	73	50	98	$67\frac{1}{8}$	123	$84\frac{3}{8}$
24	$16\frac{5}{16}$	49	$33\frac{1}{2}$	74	$50\frac{1}{2}$	99	$67\frac{3}{8}$	124	$85\frac{1}{4}$
25	17	50	$34\frac{3}{16}$	75	$51\frac{3}{8}$	100	$68\frac{9}{16}$	125	$85\frac{3}{4}$
26	$17\frac{1}{2}$	51	$34\frac{7}{8}$	76	$52\frac{1}{8}$	101	$69\frac{1}{4}$	126	$86\frac{7}{16}$

Sizes depend on rolling mill limits.



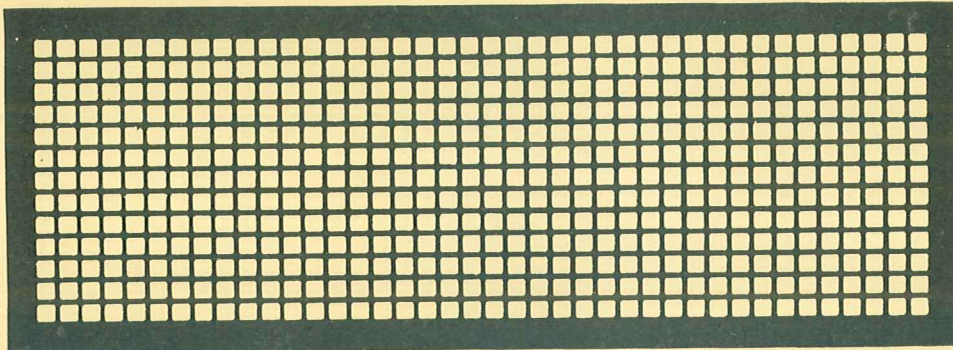
$\frac{1}{2}$ " SQUARE
 $\frac{1}{4}$ " BAR



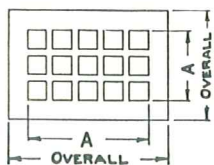
45% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{1}{4}$	27	20	52	$38\frac{3}{4}$	77	$57\frac{1}{2}$	102	$76\frac{1}{4}$
3	2	28	$20\frac{3}{4}$	53	$39\frac{1}{2}$	78	$58\frac{1}{4}$	103	77
4	$2\frac{3}{4}$	29	$21\frac{1}{2}$	54	$40\frac{1}{4}$	79	59	104	$77\frac{3}{4}$
5	$3\frac{1}{2}$	30	$22\frac{1}{4}$	55	41	80	$59\frac{3}{4}$	105	$78\frac{1}{2}$
6	$4\frac{1}{4}$	31	23	56	$41\frac{3}{4}$	81	$60\frac{1}{2}$	106	$79\frac{1}{4}$
7	5	32	$23\frac{3}{4}$	57	$42\frac{1}{2}$	82	$61\frac{1}{4}$	107	80
8	$5\frac{3}{4}$	33	$24\frac{1}{2}$	58	$43\frac{1}{4}$	83	62	108	$80\frac{3}{4}$
9	$6\frac{1}{2}$	34	$25\frac{1}{4}$	59	44	84	$62\frac{3}{4}$	109	$81\frac{1}{2}$
10	$7\frac{1}{4}$	35	26	60	$44\frac{3}{4}$	85	$63\frac{1}{2}$	110	$82\frac{1}{4}$
11	8	36	$26\frac{3}{4}$	61	$45\frac{1}{2}$	86	$64\frac{1}{4}$	111	83
12	$8\frac{3}{4}$	37	$27\frac{1}{2}$	62	$46\frac{1}{4}$	87	65	112	$83\frac{3}{4}$
13	$9\frac{1}{2}$	38	$28\frac{1}{4}$	63	47	88	$65\frac{3}{4}$	113	$84\frac{1}{2}$
14	$10\frac{1}{4}$	39	29	64	$47\frac{3}{4}$	89	$66\frac{1}{2}$	114	$85\frac{1}{4}$
15	11	40	$29\frac{3}{4}$	65	$48\frac{1}{2}$	90	$67\frac{1}{4}$	115	86
16	$11\frac{3}{4}$	41	$30\frac{1}{2}$	66	$49\frac{1}{4}$	91	68	116	$86\frac{3}{4}$
17	$12\frac{1}{2}$	42	$31\frac{1}{4}$	67	50	92	$68\frac{3}{4}$	117	$87\frac{1}{2}$
18	$13\frac{1}{4}$	43	32	68	$50\frac{3}{4}$	93	$69\frac{1}{2}$	118	$88\frac{1}{4}$
19	14	44	$32\frac{3}{4}$	69	$51\frac{1}{2}$	94	$70\frac{1}{4}$	119	89
20	$14\frac{3}{4}$	45	$33\frac{1}{2}$	70	$52\frac{1}{4}$	95	71	120	$89\frac{3}{4}$
21	$15\frac{1}{2}$	46	$34\frac{1}{4}$	71	53	96	$71\frac{3}{4}$	121	$90\frac{1}{2}$
22	$16\frac{1}{4}$	47	35	72	$53\frac{3}{4}$	97	$72\frac{1}{2}$	122	$91\frac{1}{4}$
23	17	48	$35\frac{3}{4}$	73	$54\frac{1}{2}$	98	$73\frac{1}{4}$	123	92
24	$17\frac{3}{4}$	49	$36\frac{1}{2}$	74	$55\frac{1}{4}$	99	74	124	$92\frac{3}{4}$
25	$18\frac{1}{2}$	50	$37\frac{1}{4}$	75	56	100	$74\frac{3}{4}$	125	$93\frac{1}{2}$
26	$19\frac{1}{4}$	51	38	76	$56\frac{3}{4}$	101	$75\frac{1}{2}$		

Sizes depend on rolling mill limits.



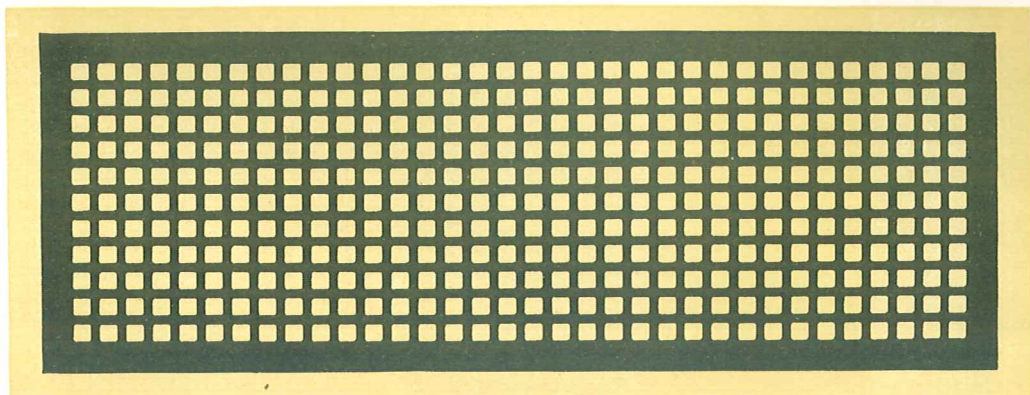
$\frac{5}{8}$ " SQUARE
 $\frac{7}{32}$ " BAR



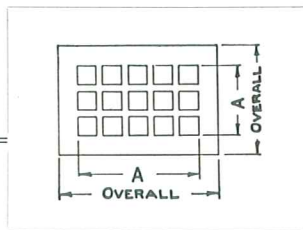
55% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{5}{32}$	27	$22\frac{9}{16}$	52	$43\frac{21}{32}$	77	$64\frac{3}{4}$	102	$85\frac{27}{32}$
3	$2\frac{5}{16}$	28	$23\frac{3}{8}$	53	$44\frac{1}{2}$	78	$65\frac{13}{16}$	103	$86\frac{11}{16}$
4	$3\frac{5}{32}$	29	$24\frac{1}{4}$	54	$45\frac{11}{32}$	79	$66\frac{7}{16}$	104	$87\frac{1}{2}$
5	4	30	$25\frac{3}{8}$	55	$46\frac{1}{16}$	80	$67\frac{3}{32}$	105	$88\frac{3}{8}$
6	$4\frac{27}{32}$	31	$25\frac{15}{16}$	56	$47\frac{1}{32}$	81	$68\frac{1}{8}$	106	$89\frac{7}{32}$
7	$5\frac{11}{16}$	32	$26\frac{25}{32}$	57	$47\frac{7}{8}$	82	$68\frac{31}{32}$	107	$90\frac{1}{16}$
8	$6\frac{17}{32}$	33	$27\frac{3}{8}$	58	$48\frac{23}{32}$	83	$69\frac{13}{16}$	108	$90\frac{23}{32}$
9	$7\frac{3}{8}$	34	$28\frac{15}{32}$	59	$49\frac{9}{16}$	84	$70\frac{31}{32}$	109	$91\frac{3}{4}$
10	$8\frac{7}{32}$	35	$29\frac{1}{16}$	60	$50\frac{33}{32}$	85	$71\frac{1}{2}$	110	$92\frac{13}{32}$
11	$9\frac{1}{16}$	36	$30\frac{5}{32}$	61	$51\frac{1}{4}$	86	$72\frac{1}{2}$	111	$93\frac{7}{16}$
12	$9\frac{29}{32}$	37	31	62	$52\frac{3}{32}$	87	$73\frac{3}{16}$	112	$94\frac{9}{32}$
13	$10\frac{3}{4}$	38	$31\frac{27}{32}$	63	$52\frac{15}{16}$	88	$74\frac{1}{32}$	113	$95\frac{1}{8}$
14	$11\frac{13}{32}$	39	$32\frac{11}{16}$	64	$53\frac{25}{32}$	89	$74\frac{7}{8}$	114	$95\frac{31}{32}$
15	$12\frac{7}{16}$	40	$33\frac{3}{32}$	65	$54\frac{5}{8}$	90	$75\frac{33}{32}$	115	$96\frac{13}{16}$
16	$13\frac{9}{32}$	41	$34\frac{3}{8}$	66	$55\frac{13}{32}$	91	$76\frac{9}{16}$	116	$97\frac{21}{32}$
17	$14\frac{1}{8}$	42	$35\frac{3}{32}$	67	$56\frac{5}{16}$	92	$77\frac{33}{32}$	117	$98\frac{1}{2}$
18	$14\frac{31}{32}$	43	$36\frac{1}{16}$	68	$57\frac{5}{32}$	93	$78\frac{1}{4}$	118	$99\frac{11}{32}$
19	$15\frac{13}{16}$	44	$36\frac{29}{32}$	69	58	94	$79\frac{3}{32}$	119	$100\frac{3}{16}$
20	$16\frac{3}{32}$	45	$37\frac{3}{4}$	70	$58\frac{27}{32}$	95	$79\frac{15}{16}$	120	$101\frac{1}{32}$
21	$17\frac{1}{2}$	46	$38\frac{13}{32}$	71	$59\frac{1}{16}$	96	$80\frac{33}{32}$	121	$101\frac{7}{8}$
22	$18\frac{11}{16}$	47	$39\frac{7}{16}$	72	$60\frac{17}{32}$	97	$81\frac{5}{8}$	122	$102\frac{23}{32}$
23	$19\frac{3}{16}$	48	$40\frac{9}{32}$	73	$61\frac{3}{8}$	98	$82\frac{15}{32}$	123	$103\frac{9}{16}$
24	$20\frac{1}{2}$	49	$41\frac{1}{8}$	74	$62\frac{7}{32}$	99	$83\frac{7}{16}$	124	$104\frac{13}{32}$
25	$20\frac{7}{8}$	50	$41\frac{31}{32}$	75	$63\frac{1}{16}$	100	$84\frac{3}{32}$	125	$105\frac{1}{4}$
26	$21\frac{23}{32}$	51	$42\frac{1}{16}$	76	$63\frac{23}{32}$	101	85		

Sizes depend on rolling mill limits.



$\frac{5}{8}$ " SQUARE
 $\frac{3}{8}$ " BAR



39% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{5}{8}$	27	$26\frac{5}{8}$	52	$51\frac{5}{8}$	77	$76\frac{5}{8}$	102	$101\frac{5}{8}$
3	$2\frac{5}{8}$	28	$27\frac{5}{8}$	53	$52\frac{5}{8}$	78	$77\frac{5}{8}$	103	$102\frac{5}{8}$
4	$3\frac{5}{8}$	29	$28\frac{5}{8}$	54	$53\frac{5}{8}$	79	$78\frac{5}{8}$	104	$103\frac{5}{8}$
5	$4\frac{5}{8}$	30	$29\frac{5}{8}$	55	$54\frac{5}{8}$	80	$79\frac{5}{8}$	105	$104\frac{5}{8}$
6	$5\frac{5}{8}$	31	$30\frac{5}{8}$	56	$55\frac{5}{8}$	81	$80\frac{5}{8}$	106	$105\frac{5}{8}$
7	$6\frac{5}{8}$	32	$31\frac{5}{8}$	57	$56\frac{5}{8}$	82	$81\frac{5}{8}$	107	$106\frac{5}{8}$
8	$7\frac{5}{8}$	33	$32\frac{5}{8}$	58	$57\frac{5}{8}$	83	$82\frac{5}{8}$	108	$107\frac{5}{8}$
9	$8\frac{5}{8}$	34	$33\frac{5}{8}$	59	$58\frac{5}{8}$	84	$83\frac{5}{8}$	109	$108\frac{5}{8}$
10	$9\frac{5}{8}$	35	$34\frac{5}{8}$	60	$59\frac{5}{8}$	85	$84\frac{5}{8}$	110	$109\frac{5}{8}$
11	$10\frac{5}{8}$	36	$35\frac{5}{8}$	61	$60\frac{5}{8}$	86	$85\frac{5}{8}$	111	$110\frac{5}{8}$
12	$11\frac{5}{8}$	37	$36\frac{5}{8}$	62	$61\frac{5}{8}$	87	$86\frac{5}{8}$	112	$111\frac{5}{8}$
13	$12\frac{5}{8}$	38	$37\frac{5}{8}$	63	$62\frac{5}{8}$	88	$87\frac{5}{8}$	113	$112\frac{5}{8}$
14	$13\frac{5}{8}$	39	$38\frac{5}{8}$	64	$63\frac{5}{8}$	89	$88\frac{5}{8}$	114	$113\frac{5}{8}$
15	$14\frac{5}{8}$	40	$39\frac{5}{8}$	65	$64\frac{5}{8}$	90	$89\frac{5}{8}$	115	$114\frac{5}{8}$
16	$15\frac{5}{8}$	41	$40\frac{5}{8}$	66	$65\frac{5}{8}$	91	$90\frac{5}{8}$	116	$115\frac{5}{8}$
17	$16\frac{5}{8}$	42	$41\frac{5}{8}$	67	$66\frac{5}{8}$	92	$91\frac{5}{8}$	117	$116\frac{5}{8}$
18	$17\frac{5}{8}$	43	$42\frac{5}{8}$	68	$67\frac{5}{8}$	93	$92\frac{5}{8}$	118	$117\frac{5}{8}$
19	$18\frac{5}{8}$	44	$43\frac{5}{8}$	69	$68\frac{5}{8}$	94	$93\frac{5}{8}$	119	$118\frac{5}{8}$
20	$19\frac{5}{8}$	45	$44\frac{5}{8}$	70	$69\frac{5}{8}$	95	$94\frac{5}{8}$	120	$119\frac{5}{8}$
21	$20\frac{5}{8}$	46	$45\frac{5}{8}$	71	$70\frac{5}{8}$	96	$95\frac{5}{8}$	121	$120\frac{5}{8}$
22	$21\frac{5}{8}$	47	$46\frac{5}{8}$	72	$71\frac{5}{8}$	97	$96\frac{5}{8}$	122	$121\frac{5}{8}$
23	$22\frac{5}{8}$	48	$47\frac{5}{8}$	73	$72\frac{5}{8}$	98	$97\frac{5}{8}$	123	$122\frac{5}{8}$
24	$23\frac{5}{8}$	49	$48\frac{5}{8}$	74	$73\frac{5}{8}$	99	$98\frac{5}{8}$	124	$123\frac{5}{8}$
25	$24\frac{5}{8}$	50	$49\frac{5}{8}$	75	$74\frac{5}{8}$	100	$99\frac{5}{8}$	125	$124\frac{5}{8}$
26	$25\frac{5}{8}$	51	$50\frac{5}{8}$	76	$75\frac{5}{8}$	101	$100\frac{5}{8}$		

Sizes depend on rolling mill limits.



*Hendrick Grilles
in Philadelphia
Subway*



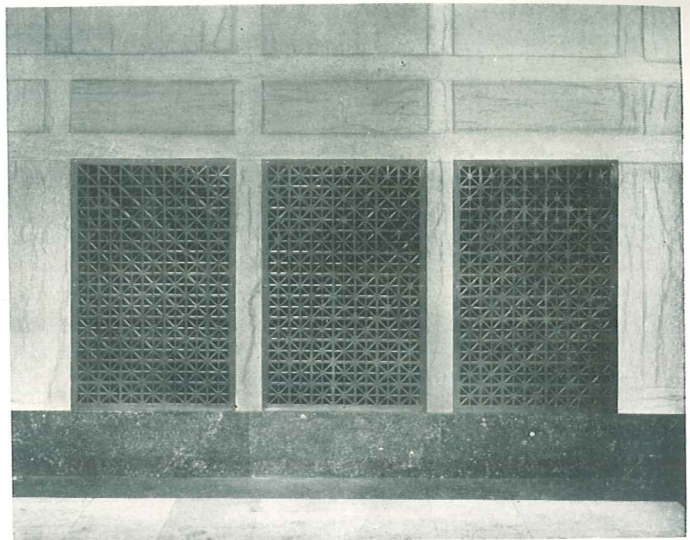
*Typical installation of
as a guard for bo
Screen*



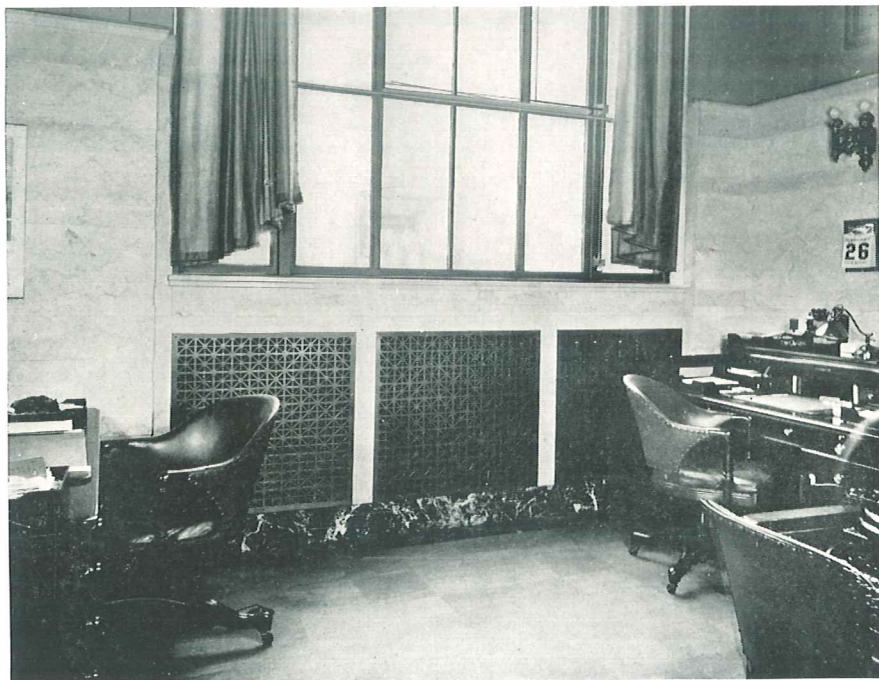
Hendrick Grilles in Philadelphia Subway



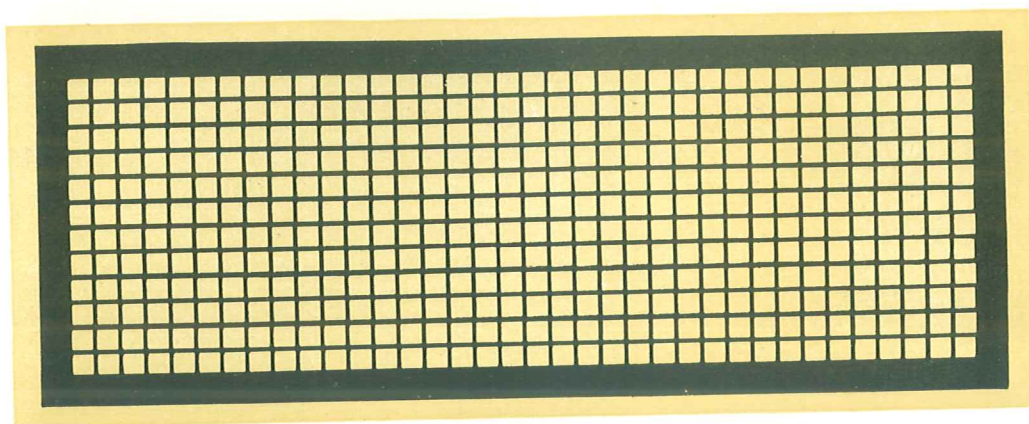
*Hendrick Shell Grille
bottom panel of a
Door*



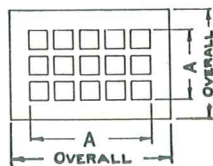
Hendrick Grecian Grilles in large Bank



Hendrick Grecian Grilles in large Bank



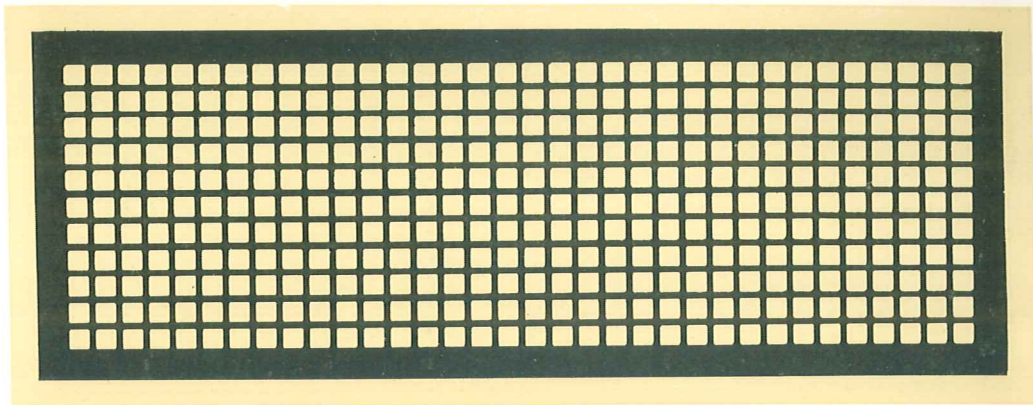
$\frac{3}{4}$ " SQUARE
 $\frac{3}{16}$ " BAR



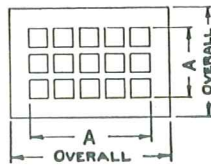
64% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{1}{16}$	27	$25\frac{1}{8}$	52	$48\frac{9}{16}$	77	$72\frac{5}{16}$	102	$95\frac{7}{16}$
3	$2\frac{5}{8}$	28	$26\frac{1}{16}$	53	$49\frac{1}{2}$	78	$72\frac{1}{8}$	103	$96\frac{3}{8}$
4	$3\frac{9}{16}$	29	27	54	$50\frac{7}{16}$	79	$73\frac{3}{8}$	104	$97\frac{5}{16}$
5	$4\frac{1}{2}$	30	$27\frac{1}{8}$	55	$51\frac{3}{8}$	80	$74\frac{1}{4}$	105	$98\frac{1}{4}$
6	$5\frac{1}{16}$	31	$28\frac{7}{8}$	56	$52\frac{5}{16}$	81	$75\frac{3}{4}$	106	$99\frac{3}{16}$
7	$6\frac{3}{8}$	32	$29\frac{1}{8}$	57	$53\frac{1}{4}$	82	$76\frac{1}{16}$	107	$100\frac{1}{8}$
8	$7\frac{5}{16}$	33	$30\frac{3}{4}$	58	$54\frac{3}{8}$	83	$77\frac{5}{8}$	108	$101\frac{1}{16}$
9	$8\frac{1}{4}$	34	$31\frac{1}{8}$	59	$55\frac{1}{8}$	84	$78\frac{9}{16}$	109	102
10	$9\frac{3}{16}$	35	$32\frac{5}{8}$	60	$56\frac{1}{16}$	85	$79\frac{1}{2}$	110	$102\frac{1}{8}$
11	$10\frac{1}{8}$	36	$33\frac{9}{16}$	61	57	86	$80\frac{7}{16}$	111	$103\frac{3}{8}$
12	$11\frac{1}{16}$	37	$34\frac{1}{2}$	62	$57\frac{1}{8}$	87	$81\frac{3}{8}$	112	$104\frac{1}{4}$
13	12	38	$35\frac{1}{8}$	63	$58\frac{1}{4}$	88	$82\frac{1}{2}$	113	$105\frac{3}{8}$
14	$12\frac{1}{2}$	39	$36\frac{3}{8}$	64	$59\frac{1}{8}$	89	$83\frac{1}{4}$	114	$106\frac{1}{2}$
15	$13\frac{1}{4}$	40	$37\frac{1}{4}$	65	$60\frac{3}{8}$	90	$84\frac{1}{8}$	115	$107\frac{5}{8}$
16	$14\frac{1}{8}$	41	$38\frac{1}{4}$	66	$61\frac{1}{8}$	91	$85\frac{1}{8}$	116	$108\frac{1}{4}$
17	$15\frac{3}{4}$	42	$39\frac{3}{8}$	67	$62\frac{5}{8}$	92	$86\frac{1}{16}$	117	$109\frac{1}{2}$
18	$16\frac{1}{4}$	43	$40\frac{1}{8}$	68	$63\frac{1}{4}$	93	87	118	$110\frac{1}{8}$
19	$17\frac{5}{8}$	44	$41\frac{1}{16}$	69	$64\frac{1}{2}$	94	$87\frac{1}{2}$	119	$111\frac{3}{8}$
20	$18\frac{9}{16}$	45	42	70	$65\frac{1}{8}$	95	$88\frac{3}{8}$	120	$112\frac{1}{2}$
21	$19\frac{1}{2}$	46	$42\frac{1}{2}$	71	$66\frac{3}{8}$	96	$89\frac{1}{4}$	121	$113\frac{1}{4}$
22	$20\frac{7}{16}$	47	$43\frac{7}{8}$	72	$67\frac{5}{16}$	97	$90\frac{3}{4}$	122	$114\frac{3}{8}$
23	$21\frac{3}{8}$	48	$44\frac{1}{4}$	73	$68\frac{1}{4}$	98	$91\frac{1}{8}$	123	$115\frac{1}{8}$
24	$22\frac{1}{2}$	49	$45\frac{3}{4}$	74	$69\frac{3}{8}$	99	$92\frac{1}{4}$	124	$116\frac{1}{16}$
25	$23\frac{1}{4}$	50	$46\frac{1}{8}$	75	$70\frac{1}{8}$	100	$93\frac{1}{8}$	125	117
26	$24\frac{3}{16}$	51	$47\frac{5}{8}$	76	$71\frac{1}{16}$	101	$94\frac{1}{2}$		

Sizes depend on rolling mill limits.



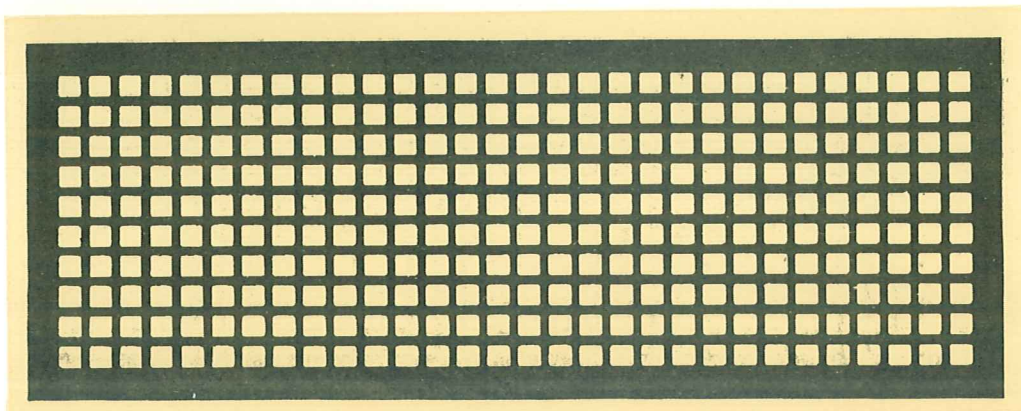
$\frac{3}{4}$ " SQUARE
 $\frac{1}{4}$ " BAR



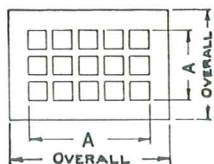
56% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{3}{4}$	27	$26\frac{3}{4}$	52	$51\frac{3}{4}$	77	$76\frac{3}{4}$	102	$101\frac{3}{4}$
3	$2\frac{3}{4}$	28	$27\frac{3}{4}$	53	$52\frac{3}{4}$	78	$77\frac{3}{4}$	103	$102\frac{3}{4}$
4	$3\frac{3}{4}$	29	$28\frac{3}{4}$	54	$53\frac{3}{4}$	79	$78\frac{3}{4}$	104	$103\frac{3}{4}$
5	$4\frac{3}{4}$	30	$29\frac{3}{4}$	55	$54\frac{3}{4}$	80	$79\frac{3}{4}$	105	$104\frac{3}{4}$
6	$5\frac{3}{4}$	31	$30\frac{3}{4}$	56	$55\frac{3}{4}$	81	$80\frac{3}{4}$	106	$105\frac{3}{4}$
7	$6\frac{3}{4}$	32	$31\frac{3}{4}$	57	$56\frac{3}{4}$	82	$81\frac{3}{4}$	107	$106\frac{3}{4}$
8	$7\frac{3}{4}$	33	$32\frac{3}{4}$	58	$57\frac{3}{4}$	83	$82\frac{3}{4}$	108	$107\frac{3}{4}$
9	$8\frac{3}{4}$	34	$33\frac{3}{4}$	59	$58\frac{3}{4}$	84	$83\frac{3}{4}$	109	$108\frac{3}{4}$
10	$9\frac{3}{4}$	35	$34\frac{3}{4}$	60	$59\frac{3}{4}$	85	$84\frac{3}{4}$	110	$109\frac{3}{4}$
11	$10\frac{3}{4}$	36	$35\frac{3}{4}$	61	$60\frac{3}{4}$	86	$85\frac{3}{4}$	111	$110\frac{3}{4}$
12	$11\frac{3}{4}$	37	$36\frac{3}{4}$	62	$61\frac{3}{4}$	87	$86\frac{3}{4}$	112	$111\frac{3}{4}$
13	$12\frac{3}{4}$	38	$37\frac{3}{4}$	63	$62\frac{3}{4}$	88	$87\frac{3}{4}$	113	$112\frac{3}{4}$
14	$13\frac{3}{4}$	39	$38\frac{3}{4}$	64	$63\frac{3}{4}$	89	$88\frac{3}{4}$	114	$113\frac{3}{4}$
15	$14\frac{3}{4}$	40	$39\frac{3}{4}$	65	$64\frac{3}{4}$	90	$89\frac{3}{4}$	115	$114\frac{3}{4}$
16	$15\frac{3}{4}$	41	$40\frac{3}{4}$	66	$65\frac{3}{4}$	91	$90\frac{3}{4}$	116	$115\frac{3}{4}$
17	$16\frac{3}{4}$	42	$41\frac{3}{4}$	67	$66\frac{3}{4}$	92	$91\frac{3}{4}$	117	$116\frac{3}{4}$
18	$17\frac{3}{4}$	43	$42\frac{3}{4}$	68	$67\frac{3}{4}$	93	$92\frac{3}{4}$	118	$117\frac{3}{4}$
19	$18\frac{3}{4}$	44	$43\frac{3}{4}$	69	$68\frac{3}{4}$	94	$93\frac{3}{4}$	119	$118\frac{3}{4}$
20	$19\frac{3}{4}$	45	$44\frac{3}{4}$	70	$69\frac{3}{4}$	95	$94\frac{3}{4}$	120	$119\frac{3}{4}$
21	$20\frac{3}{4}$	46	$45\frac{3}{4}$	71	$70\frac{3}{4}$	96	$95\frac{3}{4}$	121	$120\frac{3}{4}$
22	$21\frac{3}{4}$	47	$46\frac{3}{4}$	72	$71\frac{3}{4}$	97	$96\frac{3}{4}$	122	$121\frac{3}{4}$
23	$22\frac{3}{4}$	48	$47\frac{3}{4}$	73	$72\frac{3}{4}$	98	$97\frac{3}{4}$	123	$122\frac{3}{4}$
24	$23\frac{3}{4}$	49	$48\frac{3}{4}$	74	$73\frac{3}{4}$	99	$98\frac{3}{4}$	124	$123\frac{3}{4}$
25	$24\frac{3}{4}$	50	$49\frac{3}{4}$	75	$74\frac{3}{4}$	100	$99\frac{3}{4}$	125	$124\frac{3}{4}$
26	$25\frac{3}{4}$	51	$50\frac{3}{4}$	76	$75\frac{3}{4}$	101	$100\frac{3}{4}$		

Sizes depend on rolling mill limits.



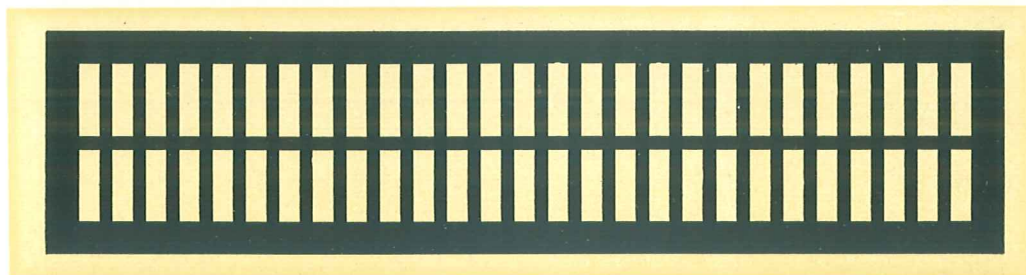
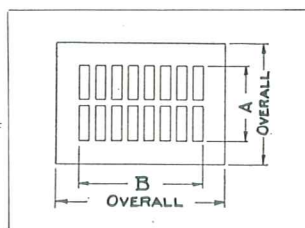
$\frac{3}{4}$ " SQUARE
 $\frac{3}{8}$ " BAR



45% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$17\frac{1}{8}$	27	30	52	$58\frac{1}{8}$	77	$86\frac{1}{4}$	102	$114\frac{3}{8}$
3	3	28	$31\frac{1}{8}$	53	$59\frac{1}{4}$	78	$87\frac{3}{8}$	103	$115\frac{1}{2}$
4	$4\frac{1}{8}$	29	$32\frac{1}{4}$	54	$60\frac{3}{8}$	79	$88\frac{1}{2}$	104	$116\frac{5}{8}$
5	$5\frac{1}{4}$	30	$33\frac{3}{8}$	55	$61\frac{1}{2}$	80	$89\frac{5}{8}$	105	$117\frac{3}{4}$
6	$6\frac{3}{8}$	31	$34\frac{1}{2}$	56	$62\frac{5}{8}$	81	$90\frac{3}{4}$	106	$118\frac{7}{8}$
7	$7\frac{1}{2}$	32	$35\frac{5}{8}$	57	$63\frac{3}{4}$	82	$91\frac{7}{8}$	107	120
8	$8\frac{5}{8}$	33	$36\frac{3}{4}$	58	$64\frac{7}{8}$	83	93	108	$121\frac{1}{8}$
9	$9\frac{3}{4}$	34	$37\frac{7}{8}$	59	66	84	$94\frac{1}{8}$	109	$122\frac{1}{4}$
10	$10\frac{7}{8}$	35	39	60	$67\frac{1}{8}$	85	$95\frac{1}{4}$	110	$123\frac{3}{8}$
11	12	36	$40\frac{1}{8}$	61	$68\frac{1}{4}$	86	$96\frac{3}{8}$	111	$124\frac{1}{2}$
12	$13\frac{1}{8}$	37	$41\frac{1}{4}$	62	$69\frac{3}{8}$	87	$97\frac{1}{2}$	112	$125\frac{5}{8}$
13	$14\frac{1}{4}$	38	$42\frac{3}{8}$	63	$70\frac{1}{2}$	88	$98\frac{5}{8}$	113	$126\frac{3}{4}$
14	$15\frac{3}{8}$	39	$43\frac{1}{2}$	64	$71\frac{5}{8}$	89	$99\frac{3}{4}$	114	$127\frac{7}{8}$
15	$16\frac{1}{2}$	40	$44\frac{5}{8}$	65	$72\frac{3}{4}$	90	$100\frac{7}{8}$	115	129
16	$17\frac{5}{8}$	41	$45\frac{3}{4}$	66	$73\frac{7}{8}$	91	102	116	$130\frac{1}{8}$
17	$18\frac{3}{4}$	42	$46\frac{7}{8}$	67	75	92	$103\frac{1}{8}$	117	$131\frac{1}{4}$
18	$19\frac{7}{8}$	43	48	68	$76\frac{1}{8}$	93	$104\frac{1}{4}$	118	$132\frac{3}{8}$
19	21	44	$49\frac{1}{8}$	69	$77\frac{1}{4}$	94	$105\frac{3}{8}$	119	$133\frac{1}{2}$
20	$22\frac{1}{8}$	45	$50\frac{1}{4}$	70	$78\frac{3}{8}$	95	$106\frac{1}{2}$	120	$134\frac{5}{8}$
21	$23\frac{1}{4}$	46	$51\frac{3}{8}$	71	$79\frac{1}{2}$	96	$107\frac{5}{8}$	121	$135\frac{3}{4}$
22	$24\frac{3}{8}$	47	$52\frac{1}{2}$	72	$80\frac{5}{8}$	97	$108\frac{3}{4}$	122	$136\frac{7}{8}$
23	$25\frac{1}{2}$	48	$53\frac{5}{8}$	73	$81\frac{3}{4}$	98	$109\frac{7}{8}$	123	138
24	$26\frac{5}{8}$	49	$54\frac{3}{4}$	74	$82\frac{7}{8}$	99	111	124	$139\frac{1}{8}$
25	$27\frac{3}{4}$	50	$55\frac{7}{8}$	75	84	100	$112\frac{1}{8}$	125	$140\frac{1}{4}$
26	$28\frac{7}{8}$	51	57	76	$85\frac{1}{8}$	101	$113\frac{1}{4}$		

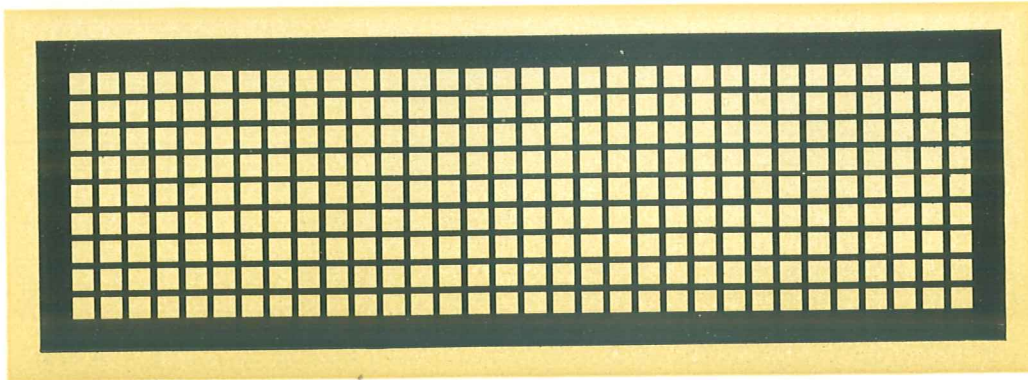
Sizes depend on rolling mill limits.


 $\frac{3}{4}" \times 2\frac{3}{4}"$


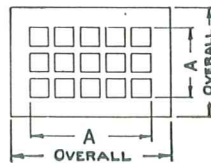
51 % Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	2 $\frac{3}{4}$	$\frac{3}{4}$	25	....	30 $\frac{3}{4}$	49	....	60 $\frac{3}{4}$
2	6	2	26	....	32	50	....	62
3	9 $\frac{1}{4}$	3 $\frac{1}{4}$	27	....	33 $\frac{1}{4}$	51	....	63 $\frac{1}{4}$
4	12 $\frac{1}{2}$	4 $\frac{1}{2}$	28	....	34 $\frac{1}{2}$	52	....	64 $\frac{1}{2}$
5	15 $\frac{3}{4}$	5 $\frac{3}{4}$	29	....	35 $\frac{3}{4}$	53	....	65 $\frac{3}{4}$
6	19	7	30	....	37	54	....	67
7	22 $\frac{1}{4}$	8 $\frac{1}{4}$	31	....	38 $\frac{1}{4}$	55	....	68 $\frac{1}{4}$
8	25 $\frac{1}{2}$	9 $\frac{1}{2}$	32	....	39 $\frac{1}{2}$	56	....	69 $\frac{1}{2}$
9	28 $\frac{3}{4}$	10 $\frac{3}{4}$	33	....	40 $\frac{3}{4}$	57	....	70 $\frac{3}{4}$
10	32	12	34	....	42	58	....	72
11	35 $\frac{1}{4}$	13 $\frac{1}{4}$	35	....	43 $\frac{1}{4}$	59	....	73 $\frac{1}{4}$
12	38 $\frac{1}{2}$	14 $\frac{1}{2}$	36	....	44 $\frac{1}{2}$	60	....	74 $\frac{1}{2}$
13	41 $\frac{3}{4}$	15 $\frac{3}{4}$	37	....	45 $\frac{3}{4}$	61	....	75 $\frac{3}{4}$
14	....	17	38	....	47	62	....	77
15	....	18 $\frac{1}{4}$	39	....	48 $\frac{1}{4}$	63	....	78 $\frac{1}{4}$
16	....	19 $\frac{1}{2}$	40	....	49 $\frac{1}{2}$	64	....	79 $\frac{1}{2}$
17	....	20 $\frac{3}{4}$	41	....	50 $\frac{3}{4}$	65	....	80 $\frac{3}{4}$
18	....	22	42	....	52	66	....	82
19	....	23 $\frac{1}{4}$	43	....	53 $\frac{1}{4}$	67	....	83 $\frac{1}{4}$
20	....	24 $\frac{1}{2}$	44	....	54 $\frac{1}{2}$	68	....	84 $\frac{1}{2}$
21	....	25 $\frac{3}{4}$	45	....	55 $\frac{3}{4}$	69	....	85 $\frac{3}{4}$
22	....	27	46	....	57	70	....	87
23	....	28 $\frac{1}{4}$	47	....	58 $\frac{1}{4}$	71	....	88 $\frac{1}{4}$
24	....	29 $\frac{1}{2}$	48	....	59 $\frac{1}{2}$	72	....	89 $\frac{1}{2}$

Sizes depend on rolling mill limits.



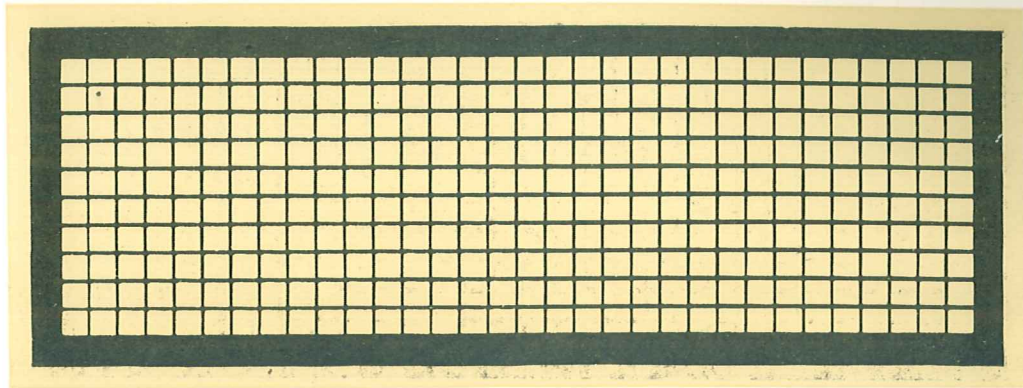
$\frac{13}{16}$ " SQUARE
 $\frac{1}{4}$ " BAR



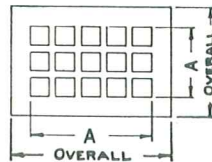
58 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{7}{8}$	27	$28\frac{7}{16}$	52	55	77	$81\frac{9}{16}$	102	$108\frac{1}{8}$
3	$2\frac{15}{16}$	28	$29\frac{1}{2}$	53	$56\frac{1}{16}$	78	$82\frac{5}{8}$	103	$109\frac{3}{8}$
4	4	29	$30\frac{9}{16}$	54	$57\frac{1}{8}$	79	$83\frac{11}{16}$	104	$110\frac{1}{4}$
5	$5\frac{1}{16}$	30	$31\frac{5}{8}$	55	$58\frac{3}{16}$	80	$84\frac{3}{4}$	105	$111\frac{1}{8}$
6	$6\frac{1}{8}$	31	$32\frac{1}{16}$	56	$59\frac{1}{4}$	81	$85\frac{13}{16}$	106	$112\frac{3}{8}$
7	$7\frac{3}{16}$	32	$33\frac{3}{4}$	57	$60\frac{5}{16}$	82	$86\frac{7}{8}$	107	$113\frac{7}{16}$
8	$8\frac{1}{4}$	33	$34\frac{13}{16}$	58	$61\frac{3}{8}$	83	$87\frac{15}{16}$	108	$114\frac{1}{2}$
9	$9\frac{1}{16}$	34	$35\frac{7}{8}$	59	$62\frac{7}{16}$	84	89	109	$115\frac{9}{16}$
10	$10\frac{3}{8}$	35	$36\frac{15}{16}$	60	$63\frac{1}{2}$	85	$90\frac{1}{16}$	110	$116\frac{3}{8}$
11	$11\frac{7}{16}$	36	38	61	$64\frac{9}{16}$	86	$91\frac{1}{8}$	111	$117\frac{11}{16}$
12	$12\frac{1}{2}$	37	$39\frac{1}{16}$	62	$65\frac{5}{8}$	87	$92\frac{3}{16}$	112	$118\frac{3}{4}$
13	$13\frac{9}{16}$	38	$40\frac{1}{8}$	63	$66\frac{1}{16}$	88	$93\frac{1}{4}$	113	$119\frac{1}{2}$
14	$14\frac{3}{8}$	39	$41\frac{3}{16}$	64	$67\frac{3}{4}$	89	$94\frac{5}{16}$	114	$120\frac{7}{8}$
15	$15\frac{11}{16}$	40	$42\frac{1}{4}$	65	$68\frac{13}{16}$	90	$95\frac{3}{8}$	115	$121\frac{15}{16}$
16	$16\frac{3}{4}$	41	$43\frac{5}{16}$	66	$69\frac{7}{8}$	91	$96\frac{7}{16}$	116	123
17	$17\frac{13}{16}$	42	$44\frac{3}{8}$	67	$70\frac{15}{16}$	92	$97\frac{1}{2}$	117	$124\frac{1}{16}$
18	$18\frac{7}{8}$	43	$45\frac{7}{16}$	68	72	93	$98\frac{1}{16}$	118	$125\frac{1}{8}$
19	$19\frac{5}{16}$	44	$46\frac{1}{2}$	69	$73\frac{1}{16}$	94	$99\frac{5}{8}$	119	$126\frac{3}{16}$
20	21	45	$47\frac{9}{16}$	70	$74\frac{1}{8}$	95	$100\frac{1}{16}$	120	$127\frac{1}{4}$
21	$22\frac{1}{16}$	46	$48\frac{5}{8}$	71	$75\frac{3}{16}$	96	$101\frac{3}{4}$	121	$128\frac{5}{16}$
22	$23\frac{1}{8}$	47	$49\frac{11}{16}$	72	$76\frac{1}{4}$	97	$102\frac{13}{16}$	122	$129\frac{3}{8}$
23	$24\frac{3}{16}$	48	$50\frac{3}{4}$	73	$77\frac{1}{16}$	98	$103\frac{7}{8}$	123	$130\frac{1}{16}$
24	$25\frac{1}{4}$	49	$51\frac{13}{16}$	74	$78\frac{3}{8}$	99	$104\frac{15}{16}$	124	$131\frac{1}{2}$
25	$26\frac{1}{16}$	50	$52\frac{7}{8}$	75	$79\frac{1}{16}$	100	106	125	$132\frac{9}{16}$
26	$27\frac{3}{8}$	51	$53\frac{15}{16}$	76	$80\frac{1}{2}$	101	$107\frac{1}{16}$	126	$133\frac{5}{8}$

Sizes depend on rolling mill limits.



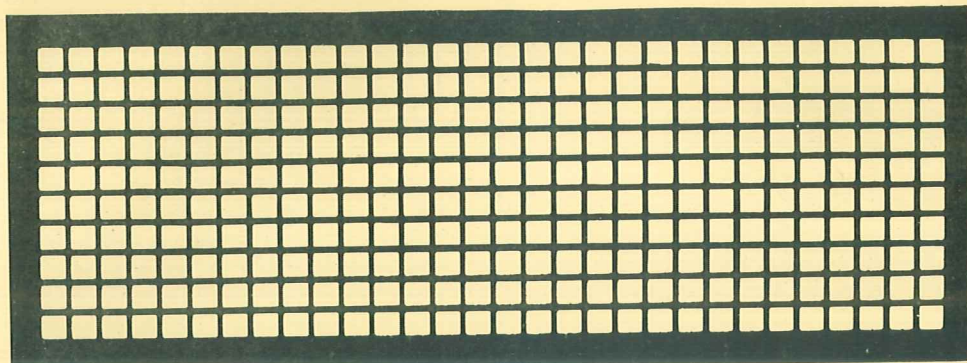
$\frac{7}{8}$ " SQUARE
 $\frac{3}{16}$ " BAR



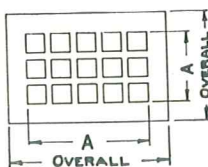
67% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$1\frac{5}{16}$	27	$28\frac{1}{2}$	52	$55\frac{1}{16}$	77	$81\frac{5}{8}$	102	$108\frac{3}{16}$
3	3	28	$29\frac{9}{16}$	53	$56\frac{1}{8}$	78	$82\frac{11}{16}$	103	$109\frac{1}{4}$
4	$4\frac{1}{16}$	29	$30\frac{5}{8}$	54	$57\frac{3}{16}$	79	$83\frac{3}{4}$	104	$110\frac{5}{16}$
5	$5\frac{1}{8}$	30	$31\frac{11}{16}$	55	$58\frac{1}{4}$	80	$84\frac{13}{16}$	105	$111\frac{3}{8}$
6	$6\frac{3}{16}$	31	$32\frac{3}{4}$	56	$59\frac{5}{16}$	81	$85\frac{7}{8}$	106	$112\frac{1}{16}$
7	$7\frac{1}{4}$	32	$33\frac{13}{16}$	57	$60\frac{3}{8}$	82	$86\frac{15}{16}$	107	$113\frac{1}{2}$
8	$8\frac{5}{16}$	33	$34\frac{7}{8}$	58	$61\frac{7}{16}$	83	88	108	$114\frac{9}{16}$
9	$9\frac{3}{8}$	34	$35\frac{13}{16}$	59	$62\frac{1}{2}$	84	$89\frac{1}{16}$	109	$115\frac{5}{8}$
10	$10\frac{1}{16}$	35	37	60	$63\frac{9}{16}$	85	$90\frac{1}{8}$	110	$116\frac{11}{16}$
11	$11\frac{1}{2}$	36	$38\frac{1}{16}$	61	$64\frac{5}{8}$	86	$91\frac{3}{16}$	111	$117\frac{3}{4}$
12	$12\frac{9}{16}$	37	$39\frac{1}{8}$	62	$65\frac{11}{16}$	87	$92\frac{1}{4}$	112	$118\frac{13}{16}$
13	$13\frac{5}{8}$	38	$40\frac{3}{16}$	63	$66\frac{3}{4}$	88	$93\frac{5}{16}$	113	$119\frac{7}{8}$
14	$14\frac{11}{16}$	39	$41\frac{1}{4}$	64	$67\frac{13}{16}$	89	$94\frac{3}{8}$	114	$120\frac{15}{16}$
15	$15\frac{3}{4}$	40	$42\frac{5}{16}$	65	$68\frac{7}{8}$	90	$95\frac{7}{16}$	115	122
16	$16\frac{13}{16}$	41	$43\frac{3}{8}$	66	$69\frac{15}{16}$	91	$96\frac{1}{2}$	116	$123\frac{1}{16}$
17	$17\frac{7}{8}$	42	$44\frac{7}{16}$	67	71	92	$97\frac{9}{16}$	117	$124\frac{1}{8}$
18	$18\frac{15}{16}$	43	$45\frac{1}{2}$	68	$72\frac{1}{16}$	93	$98\frac{5}{8}$	118	$125\frac{3}{16}$
19	20	44	$46\frac{9}{16}$	69	$73\frac{1}{8}$	94	$99\frac{11}{16}$	119	$126\frac{1}{4}$
20	$21\frac{1}{16}$	45	$47\frac{5}{8}$	70	$74\frac{3}{16}$	95	$100\frac{3}{4}$	120	$127\frac{5}{16}$
21	$22\frac{1}{8}$	46	$48\frac{11}{16}$	71	$75\frac{1}{4}$	96	$101\frac{13}{16}$	121	$128\frac{3}{8}$
22	$23\frac{3}{16}$	47	$49\frac{3}{4}$	72	$76\frac{5}{16}$	97	$102\frac{7}{8}$	122	$129\frac{7}{16}$
23	$24\frac{1}{4}$	48	$50\frac{13}{16}$	73	$77\frac{3}{8}$	98	$103\frac{15}{16}$	123	$130\frac{1}{2}$
24	$25\frac{5}{16}$	49	$51\frac{7}{8}$	74	$78\frac{7}{16}$	99	105	124	$131\frac{9}{16}$
25	$26\frac{3}{8}$	50	$52\frac{15}{16}$	75	$79\frac{1}{2}$	100	$106\frac{1}{16}$	125	$132\frac{5}{8}$
26	$27\frac{7}{16}$	51	54	76	$80\frac{9}{16}$	101	$107\frac{1}{8}$		

Sizes depend on rolling mill limits.



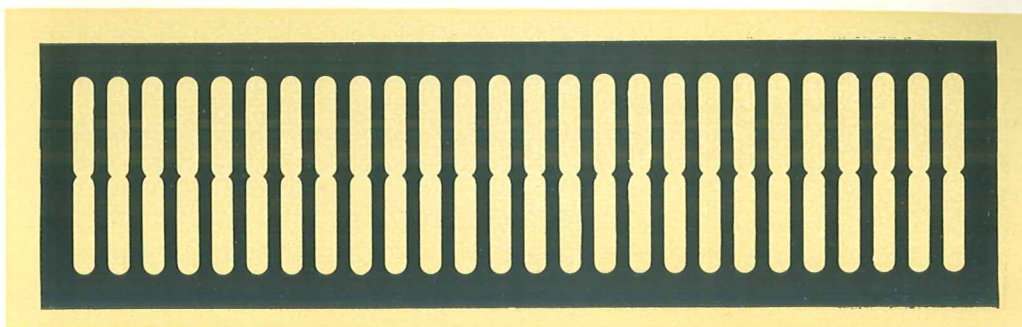
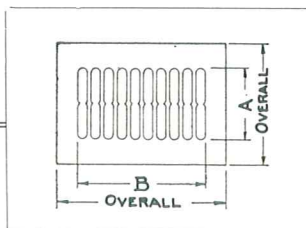
$\frac{7}{8}$ " SQUARE
 $\frac{1}{4}$ " BAR



60% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	2	27	$30\frac{1}{8}$	52	$58\frac{1}{4}$	77	$86\frac{3}{8}$	102	$114\frac{1}{2}$
3	$3\frac{1}{8}$	28	$31\frac{1}{4}$	53	$59\frac{3}{8}$	78	$87\frac{1}{2}$	103	$115\frac{5}{8}$
4	$4\frac{1}{4}$	29	$32\frac{3}{8}$	54	$60\frac{1}{2}$	79	$88\frac{5}{8}$	104	$116\frac{3}{4}$
5	$5\frac{3}{8}$	30	$33\frac{1}{2}$	55	$61\frac{5}{8}$	80	$89\frac{3}{4}$	105	$117\frac{7}{8}$
6	$6\frac{1}{2}$	31	$34\frac{5}{8}$	56	$62\frac{3}{4}$	81	$90\frac{7}{8}$	106	119
7	$7\frac{5}{8}$	32	$35\frac{3}{4}$	57	$63\frac{7}{8}$	82	92	107	$120\frac{1}{8}$
8	$8\frac{3}{4}$	33	$36\frac{7}{8}$	58	65	83	$93\frac{1}{8}$	108	$121\frac{1}{4}$
9	$9\frac{7}{8}$	34	38	59	$66\frac{1}{8}$	84	$94\frac{1}{4}$	109	$122\frac{3}{8}$
10	11	35	$39\frac{1}{8}$	60	$67\frac{1}{4}$	85	$95\frac{3}{8}$	110	$123\frac{1}{2}$
11	$12\frac{1}{8}$	36	$40\frac{1}{4}$	61	$68\frac{3}{8}$	86	$96\frac{1}{2}$	111	$124\frac{5}{8}$
12	$13\frac{1}{4}$	37	$41\frac{3}{8}$	62	$69\frac{1}{2}$	87	$97\frac{5}{8}$	112	$125\frac{3}{4}$
13	$14\frac{3}{8}$	38	$42\frac{1}{2}$	63	$70\frac{5}{8}$	88	$98\frac{3}{4}$	113	$126\frac{7}{8}$
14	$15\frac{1}{2}$	39	$43\frac{5}{8}$	64	$71\frac{3}{4}$	89	$99\frac{7}{8}$	114	128
15	$16\frac{3}{8}$	40	$44\frac{3}{4}$	65	$72\frac{7}{8}$	90	101	115	$129\frac{1}{8}$
16	$17\frac{3}{4}$	41	$45\frac{7}{8}$	66	74	91	$102\frac{1}{8}$	116	$130\frac{1}{4}$
17	$18\frac{7}{8}$	42	47	67	$75\frac{1}{8}$	92	$103\frac{1}{4}$	117	$131\frac{3}{8}$
18	20	43	$48\frac{1}{8}$	68	$76\frac{1}{4}$	93	$104\frac{3}{8}$	118	$132\frac{1}{2}$
19	$21\frac{1}{8}$	44	$49\frac{1}{4}$	69	$77\frac{3}{8}$	94	$105\frac{1}{2}$	119	$133\frac{5}{8}$
20	$22\frac{1}{4}$	45	$50\frac{3}{8}$	70	$78\frac{1}{2}$	95	$106\frac{5}{8}$	120	$134\frac{3}{4}$
21	$23\frac{3}{8}$	46	$51\frac{1}{2}$	71	$79\frac{5}{8}$	96	$107\frac{3}{4}$	121	$135\frac{7}{8}$
22	$24\frac{1}{2}$	47	$52\frac{5}{8}$	72	$80\frac{3}{4}$	97	$108\frac{7}{8}$	122	137
23	$25\frac{5}{8}$	48	$53\frac{3}{4}$	73	$81\frac{7}{8}$	98	110	123	$138\frac{1}{8}$
24	$26\frac{3}{4}$	49	$54\frac{7}{8}$	74	83	99	$111\frac{1}{8}$	124	$139\frac{1}{4}$
25	$27\frac{7}{8}$	50	56	75	$84\frac{1}{8}$	100	$112\frac{1}{4}$	125	$140\frac{3}{8}$
26	29	51	$57\frac{1}{8}$	76	$85\frac{1}{4}$	101	$113\frac{3}{8}$		

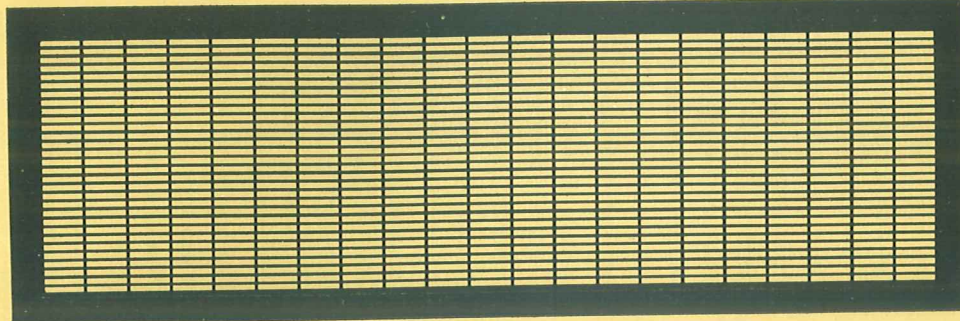
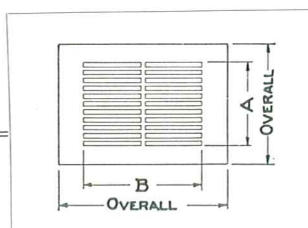
Sizes depend on rolling mill limits.


 $\frac{13}{16}$ " x $7\frac{1}{2}$ " SPECIAL


52 % Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$7\frac{1}{2}$	$\frac{13}{16}$	25	....	$32\frac{5}{16}$	49	....	$63\frac{13}{16}$
2	$15\frac{1}{2}$	$2\frac{1}{8}$	26	....	$33\frac{5}{8}$	50	....	$65\frac{1}{8}$
3	$23\frac{1}{2}$	$3\frac{1}{16}$	27	....	$34\frac{11}{16}$	51	....	$66\frac{7}{16}$
4	$31\frac{1}{2}$	$4\frac{3}{4}$	28	....	$36\frac{1}{4}$	52	....	$67\frac{3}{4}$
5	$39\frac{1}{2}$	$6\frac{1}{16}$	29	....	$37\frac{9}{16}$	53	....	$69\frac{1}{16}$
6	....	$7\frac{3}{8}$	30	....	$38\frac{7}{8}$	54	....	$70\frac{3}{8}$
7	....	$8\frac{1}{16}$	31	....	$40\frac{3}{16}$	55	....	$71\frac{11}{16}$
8	....	10	32	....	$41\frac{1}{2}$	56	....	73
9	....	$11\frac{5}{16}$	33	....	$42\frac{3}{8}$	57	....	$74\frac{5}{16}$
10	....	$12\frac{5}{8}$	34	....	$44\frac{1}{8}$	58	....	$75\frac{3}{8}$
11	....	$13\frac{11}{16}$	35	....	$45\frac{7}{16}$	59	....	$76\frac{11}{16}$
12	....	$15\frac{1}{4}$	36	....	$46\frac{3}{4}$	60	....	$78\frac{1}{4}$
13	....	$16\frac{9}{16}$	37	....	$48\frac{1}{16}$	61	....	$79\frac{9}{16}$
14	....	$17\frac{7}{8}$	38	....	$49\frac{3}{8}$	62	....	$80\frac{7}{8}$
15	....	$19\frac{3}{16}$	39	....	$50\frac{11}{16}$	63	....	$82\frac{3}{16}$
16	....	$20\frac{1}{2}$	40	....	52	64	....	$83\frac{1}{2}$
17	....	$21\frac{13}{16}$	41	....	$53\frac{5}{16}$	65	....	$84\frac{13}{16}$
18	....	$23\frac{1}{8}$	42	....	$54\frac{5}{8}$	66	....	$86\frac{1}{8}$
19	....	$24\frac{7}{16}$	43	....	$55\frac{1}{16}$	67	....	$87\frac{7}{16}$
20	....	$25\frac{3}{4}$	44	....	$57\frac{1}{4}$	68	....	$88\frac{3}{4}$
21	....	$27\frac{1}{16}$	45	....	$58\frac{9}{16}$	69	....	$90\frac{1}{16}$
22	....	$28\frac{3}{8}$	46	....	$59\frac{7}{8}$	70	....	$91\frac{3}{8}$
23	....	$29\frac{11}{16}$	47	....	$61\frac{3}{16}$	71	....	$92\frac{11}{16}$
24	....	31	48	....	$62\frac{1}{2}$	72	....	94

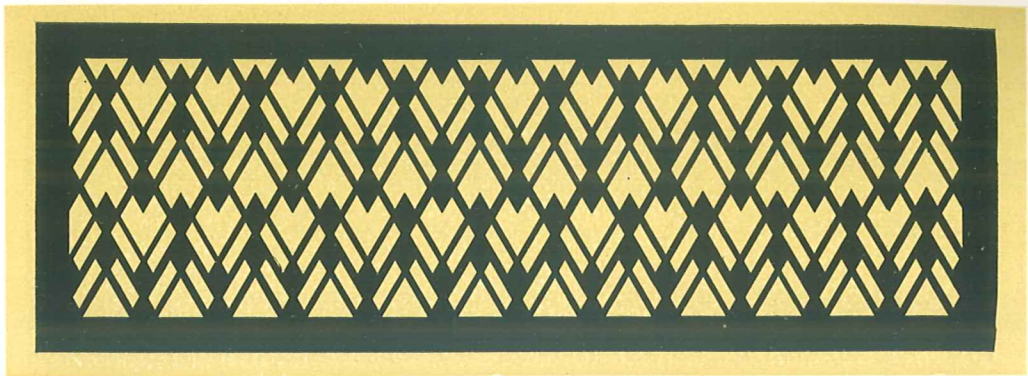
Sizes depend on rolling mill limits.


 $13\frac{13}{64}'' \times 11\frac{1}{2}''$


59% Open Area
39% Open Area

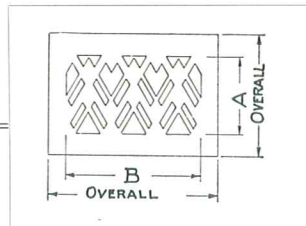
No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$1\frac{3}{64}$	$1\frac{1}{2}$	25	$8\frac{5}{64}$	$40\frac{1}{2}$	49	$15\frac{81}{64}$	$79\frac{1}{2}$
2	$1\frac{7}{32}$	$3\frac{1}{8}$	26	$8\frac{3}{32}$	$42\frac{1}{8}$	50	$16\frac{9}{32}$	$81\frac{1}{8}$
3	$1\frac{5}{64}$	$4\frac{3}{4}$	27	$8\frac{47}{64}$	$43\frac{3}{4}$	51	$16\frac{33}{64}$	$82\frac{3}{4}$
4	$1\frac{3}{16}$	$6\frac{3}{8}$	28	$9\frac{1}{16}$	$45\frac{3}{8}$	52	$16\frac{15}{16}$	$84\frac{3}{8}$
5	$1\frac{33}{64}$	8	29	$9\frac{25}{64}$	47	53	$17\frac{17}{64}$	86
6	$1\frac{27}{32}$	$9\frac{5}{8}$	30	$9\frac{23}{32}$	$48\frac{5}{8}$	54	$17\frac{9}{32}$	$87\frac{5}{8}$
7	$2\frac{11}{64}$	$11\frac{1}{4}$	31	$10\frac{3}{64}$	$50\frac{1}{4}$	55	$17\frac{59}{64}$	$89\frac{1}{4}$
8	$2\frac{1}{2}$	$12\frac{7}{8}$	32	$10\frac{3}{8}$	$51\frac{7}{8}$	56	$18\frac{1}{4}$	$90\frac{7}{8}$
9	$2\frac{53}{64}$	$14\frac{1}{2}$	33	$10\frac{45}{64}$	$53\frac{1}{2}$	57	$18\frac{37}{64}$	$92\frac{1}{2}$
10	$3\frac{5}{32}$	$16\frac{1}{8}$	34	$11\frac{1}{32}$	$55\frac{1}{8}$	58	$18\frac{1}{16}$	$94\frac{1}{8}$
11	$3\frac{31}{64}$	$17\frac{3}{4}$	35	$11\frac{23}{64}$	$56\frac{3}{4}$	59	$19\frac{15}{64}$	$95\frac{3}{4}$
12	$3\frac{13}{16}$	$19\frac{3}{8}$	36	$11\frac{11}{16}$	$58\frac{3}{8}$	60	$19\frac{9}{16}$	$97\frac{3}{8}$
13	$4\frac{9}{64}$	21	37	$12\frac{1}{64}$	60	61	$19\frac{57}{64}$	....
14	$4\frac{15}{32}$	$22\frac{5}{8}$	38	$12\frac{11}{32}$	$61\frac{5}{8}$	62	$20\frac{7}{32}$	....
15	$4\frac{51}{64}$	$24\frac{1}{4}$	39	$12\frac{43}{64}$	$63\frac{1}{4}$	63	$20\frac{35}{64}$	....
16	$5\frac{1}{8}$	$25\frac{7}{8}$	40	13	$64\frac{7}{8}$	64	$20\frac{7}{8}$	....
17	$5\frac{29}{64}$	$27\frac{1}{2}$	41	$13\frac{21}{64}$	$66\frac{1}{2}$	65	$21\frac{13}{64}$	....
18	$5\frac{24}{32}$	$29\frac{1}{8}$	42	$13\frac{21}{32}$	$68\frac{1}{8}$	66	$21\frac{17}{32}$	....
19	$6\frac{7}{64}$	$30\frac{3}{4}$	43	$13\frac{53}{64}$	$69\frac{3}{4}$	67	$21\frac{55}{64}$	....
20	$6\frac{7}{16}$	$32\frac{3}{8}$	44	$14\frac{5}{16}$	$71\frac{3}{8}$	68	$22\frac{3}{16}$	....
21	$6\frac{49}{64}$	34	45	$14\frac{11}{64}$	73	69	$22\frac{33}{64}$	....
22	$7\frac{3}{32}$	$35\frac{5}{8}$	46	$14\frac{31}{32}$	$74\frac{5}{8}$	70	$22\frac{27}{32}$	....
23	$7\frac{27}{64}$	$37\frac{1}{4}$	47	$15\frac{19}{64}$	$76\frac{1}{4}$	71	$23\frac{11}{64}$	....
24	$7\frac{3}{4}$	$38\frac{7}{8}$	48	$15\frac{5}{8}$	$77\frac{7}{8}$	72	$23\frac{1}{2}$	....

Sizes depend on rolling mill limits.



Design Patent No. 89,624

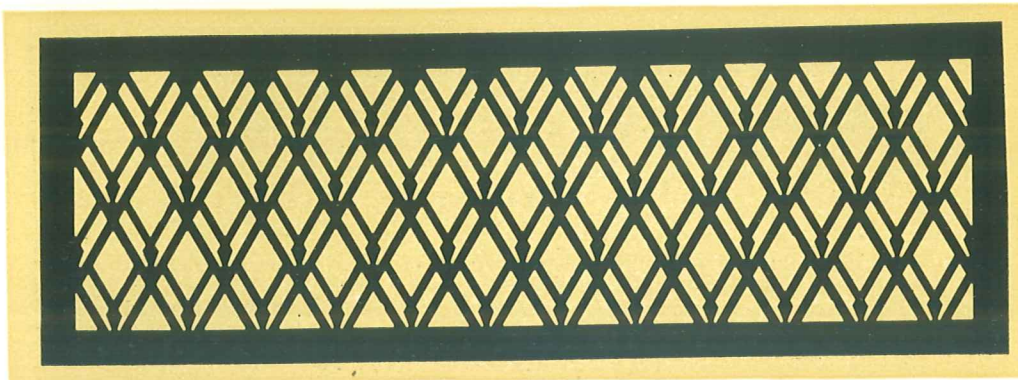
M No. 1



50 % Open Area

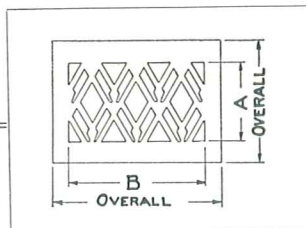
No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	4 $\frac{3}{4}$	2 $\frac{3}{4}$	21	99 $\frac{3}{4}$	57 $\frac{3}{4}$	41	.....	112 $\frac{3}{4}$
2	9 $\frac{1}{2}$	5 $\frac{1}{2}$	22	104 $\frac{1}{2}$	60 $\frac{1}{2}$	42	.....	115 $\frac{1}{2}$
3	14 $\frac{1}{4}$	8 $\frac{1}{4}$	23	109 $\frac{1}{4}$	63 $\frac{1}{4}$	43	.....	118 $\frac{1}{4}$
4	19	11	24	114	66	44	.....	121
5	23 $\frac{3}{4}$	13 $\frac{3}{4}$	25	118 $\frac{3}{4}$	68 $\frac{3}{4}$	45	.....	123 $\frac{3}{4}$
6	28 $\frac{1}{2}$	16 $\frac{1}{2}$	26	123 $\frac{1}{2}$	71 $\frac{1}{2}$	46	.....	126 $\frac{1}{2}$
7	33 $\frac{1}{4}$	19 $\frac{1}{4}$	27	128 $\frac{1}{4}$	74 $\frac{1}{4}$	47	.....	129 $\frac{1}{4}$
8	38	22	28	133	77	48	.....	132
9	42 $\frac{3}{4}$	24 $\frac{3}{4}$	29	137 $\frac{3}{4}$	79 $\frac{3}{4}$	49	.....	134 $\frac{3}{4}$
10	47 $\frac{1}{2}$	27 $\frac{1}{2}$	30	142 $\frac{1}{2}$	82 $\frac{1}{2}$	50	.....	137 $\frac{1}{2}$
11	52 $\frac{1}{4}$	30 $\frac{1}{4}$	31	147 $\frac{1}{4}$	85 $\frac{1}{4}$	51	.....	140 $\frac{1}{4}$
12	57	33	32	152	88	52	.....	143
13	61 $\frac{3}{4}$	35 $\frac{3}{4}$	33	.....	90 $\frac{3}{4}$	53	.....	145 $\frac{3}{4}$
14	66 $\frac{1}{2}$	38 $\frac{1}{2}$	34	.....	93 $\frac{1}{2}$	54	.....	148 $\frac{1}{2}$
15	71 $\frac{1}{4}$	41 $\frac{1}{4}$	35	.....	96 $\frac{1}{4}$	55	.....	151 $\frac{1}{4}$
16	76	44	36	.....	99	56	.....	154
17	80 $\frac{3}{4}$	46 $\frac{3}{4}$	37	.....	101 $\frac{3}{4}$	57	.....	156 $\frac{3}{4}$
18	85 $\frac{1}{2}$	49 $\frac{1}{2}$	38	.....	104 $\frac{1}{2}$	58	.....	159 $\frac{1}{2}$
19	90 $\frac{1}{4}$	52 $\frac{1}{4}$	39	.....	107 $\frac{1}{4}$	59	.....	162 $\frac{1}{4}$
20	95	55	40	.....	110	60	.....	165

Sizes depend on rolling mill limits.



Design Patent No. 89,623

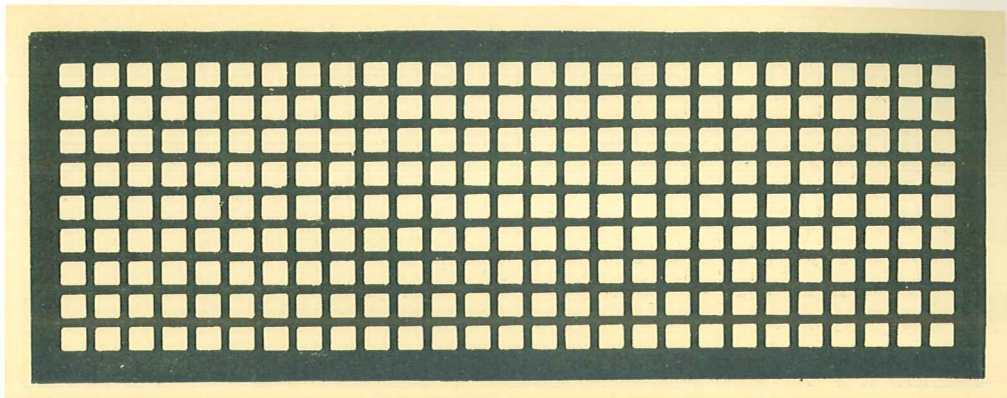
M No. 2



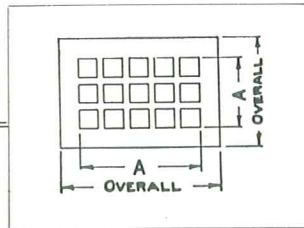
57 % Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	4 $\frac{3}{4}$	2 $\frac{3}{4}$	21	99 $\frac{3}{4}$	57 $\frac{3}{4}$	41	.....	112 $\frac{3}{4}$
2	9 $\frac{1}{2}$	5 $\frac{1}{2}$	22	104 $\frac{1}{2}$	60 $\frac{1}{2}$	42	.....	115 $\frac{1}{2}$
3	14 $\frac{1}{4}$	8 $\frac{1}{4}$	23	109 $\frac{1}{4}$	63 $\frac{1}{4}$	43	.....	118 $\frac{1}{4}$
4	19	11	24	114	66	44	.....	121
5	23 $\frac{3}{4}$	13 $\frac{3}{4}$	25	118 $\frac{3}{4}$	68 $\frac{3}{4}$	45	.....	123 $\frac{3}{4}$
6	28 $\frac{1}{2}$	16 $\frac{1}{2}$	26	123 $\frac{1}{2}$	71 $\frac{1}{2}$	46	.....	126 $\frac{1}{2}$
7	33 $\frac{1}{4}$	19 $\frac{1}{4}$	27	128 $\frac{1}{4}$	74 $\frac{1}{4}$	47	.....	129 $\frac{1}{4}$
8	38	22	28	133	77	48	.....	132
9	42 $\frac{3}{4}$	24 $\frac{3}{4}$	29	137 $\frac{3}{4}$	79 $\frac{3}{4}$	49	.....	134 $\frac{3}{4}$
10	47 $\frac{1}{2}$	27 $\frac{1}{2}$	30	142 $\frac{1}{2}$	82 $\frac{1}{2}$	50	.....	137 $\frac{1}{2}$
11	52 $\frac{1}{4}$	30 $\frac{1}{4}$	31	147 $\frac{1}{4}$	85 $\frac{1}{4}$	51	.....	140 $\frac{1}{4}$
12	57	33	32	152	88	52	.....	143
13	61 $\frac{3}{4}$	35 $\frac{3}{4}$	33	.....	90 $\frac{3}{4}$	53	.....	145 $\frac{3}{4}$
14	66 $\frac{1}{2}$	38 $\frac{1}{2}$	34	.....	93 $\frac{1}{2}$	54	.....	148 $\frac{1}{2}$
15	71 $\frac{1}{4}$	41 $\frac{1}{4}$	35	.....	96 $\frac{1}{4}$	55	.....	151 $\frac{1}{4}$
16	76	44	36	.....	99	56	.....	154
17	80 $\frac{3}{4}$	46 $\frac{3}{4}$	37	.....	101 $\frac{3}{4}$	57	.....	156 $\frac{3}{4}$
18	85 $\frac{1}{2}$	49 $\frac{1}{2}$	38	.....	104 $\frac{1}{2}$	58	.....	159 $\frac{1}{2}$
19	90 $\frac{1}{4}$	52 $\frac{1}{4}$	39	.....	107 $\frac{1}{4}$	59	.....	162 $\frac{1}{4}$
20	95	55	40	.....	110	60	.....	165

Sizes depend on rolling mill limits.



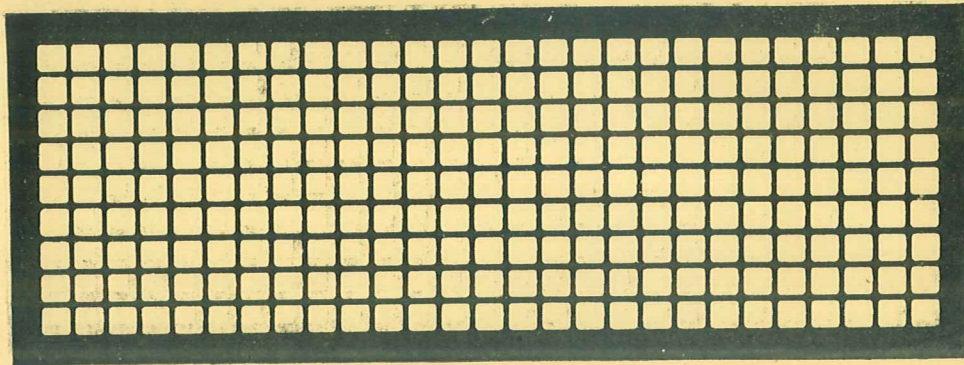
$\frac{7}{8}$ " SQUARE
 $\frac{3}{8}$ " BAR



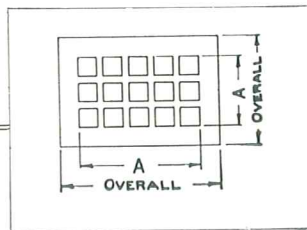
49% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	$2\frac{1}{8}$	27	$33\frac{3}{8}$	52	$64\frac{5}{8}$	77	$95\frac{7}{8}$	102	$127\frac{1}{8}$
3	$3\frac{3}{8}$	28	$34\frac{5}{8}$	53	$65\frac{7}{8}$	78	$97\frac{1}{8}$	103	$123\frac{3}{8}$
4	$4\frac{5}{8}$	29	$35\frac{7}{8}$	54	$67\frac{1}{8}$	79	$98\frac{3}{8}$	104	$129\frac{5}{8}$
5	$5\frac{7}{8}$	30	$37\frac{1}{8}$	55	$68\frac{3}{8}$	80	$99\frac{5}{8}$	105	$130\frac{7}{8}$
6	$7\frac{1}{8}$	31	$38\frac{3}{8}$	56	$69\frac{5}{8}$	81	$100\frac{7}{8}$	106	$132\frac{1}{8}$
7	$8\frac{3}{8}$	32	$39\frac{5}{8}$	57	$70\frac{7}{8}$	82	$102\frac{1}{8}$	107	$133\frac{3}{8}$
8	$9\frac{5}{8}$	33	$40\frac{7}{8}$	58	$72\frac{1}{8}$	83	$103\frac{3}{8}$	108	$134\frac{5}{8}$
9	$10\frac{7}{8}$	34	$42\frac{1}{8}$	59	$73\frac{3}{8}$	84	$104\frac{5}{8}$	109	$135\frac{7}{8}$
10	$12\frac{1}{8}$	35	$43\frac{3}{8}$	60	$74\frac{5}{8}$	85	$105\frac{7}{8}$	110	$137\frac{1}{8}$
11	$13\frac{3}{8}$	36	$44\frac{5}{8}$	61	$75\frac{7}{8}$	86	$107\frac{1}{8}$	111	$138\frac{3}{8}$
12	$14\frac{5}{8}$	37	$45\frac{7}{8}$	62	$77\frac{1}{8}$	87	$108\frac{3}{8}$	112	$139\frac{5}{8}$
13	$15\frac{7}{8}$	38	$47\frac{1}{8}$	63	$78\frac{3}{8}$	88	$109\frac{5}{8}$	113	$140\frac{7}{8}$
14	$17\frac{1}{8}$	39	$48\frac{3}{8}$	64	$79\frac{5}{8}$	89	$110\frac{7}{8}$	114	$142\frac{1}{8}$
15	$18\frac{3}{8}$	40	$49\frac{5}{8}$	65	$80\frac{7}{8}$	90	$112\frac{1}{8}$	115	$143\frac{3}{8}$
16	$19\frac{5}{8}$	41	$50\frac{7}{8}$	66	$82\frac{1}{8}$	91	$113\frac{3}{8}$	116	$144\frac{5}{8}$
17	$20\frac{7}{8}$	42	$52\frac{1}{8}$	67	$83\frac{3}{8}$	92	$114\frac{5}{8}$	117	$145\frac{7}{8}$
18	$22\frac{1}{8}$	43	$53\frac{3}{8}$	68	$84\frac{5}{8}$	93	$115\frac{7}{8}$	118	$147\frac{1}{8}$
19	$23\frac{3}{8}$	44	$54\frac{5}{8}$	69	$85\frac{7}{8}$	94	$117\frac{1}{8}$	119	$148\frac{3}{8}$
20	$24\frac{5}{8}$	45	$55\frac{7}{8}$	70	$87\frac{1}{8}$	95	$118\frac{3}{8}$	120	$149\frac{5}{8}$
21	$25\frac{7}{8}$	46	$57\frac{1}{8}$	71	$88\frac{3}{8}$	96	$119\frac{5}{8}$	121	$150\frac{7}{8}$
22	$27\frac{1}{8}$	47	$58\frac{3}{8}$	72	$89\frac{5}{8}$	97	$120\frac{7}{8}$	122	$152\frac{1}{8}$
23	$28\frac{3}{8}$	48	$59\frac{5}{8}$	73	$90\frac{7}{8}$	98	$122\frac{1}{8}$	123	$153\frac{3}{8}$
24	$29\frac{5}{8}$	49	$60\frac{7}{8}$	74	$92\frac{1}{8}$	99	$123\frac{3}{8}$	124	$154\frac{5}{8}$
25	$30\frac{7}{8}$	50	$62\frac{1}{8}$	75	$93\frac{3}{8}$	100	$124\frac{5}{8}$	125	$155\frac{7}{8}$
26	$32\frac{1}{8}$	51	$63\frac{3}{8}$	76	$94\frac{5}{8}$	101	$125\frac{7}{8}$		

Sizes depend on rolling mill limits.



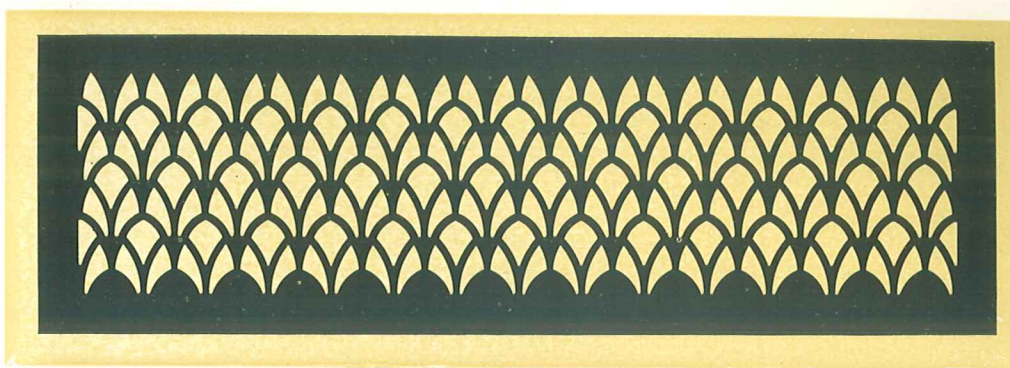
1" SQUARE
1/4" BAR



64% Open Area

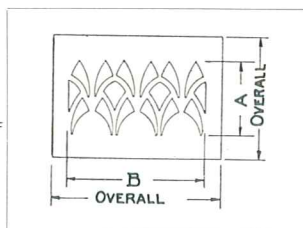
No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	2 1/4	27	33 1/2	52	64 3/4	77	96	102	127 1/4
3	3 1/2	28	34 3/4	53	66	78	97 1/4	103	128 1/2
4	4 3/4	29	36	54	67 1/4	79	98 1/2	104	129 3/4
5	6	30	37 1/4	55	68 1/2	80	99 3/4	105	131
6	7 1/4	31	38 1/2	56	69 3/4	81	101	106	132 1/4
7	8 1/2	32	39 3/4	57	71	82	102 1/4	107	133 1/2
8	9 3/4	33	41	58	72 1/4	83	103 1/2	108	134 3/4
9	11	34	42 1/4	59	73 1/2	84	104 3/4	109	136
10	12 1/4	35	43 1/2	60	74 3/4	85	106	110	137 1/4
11	13 1/2	36	44 3/4	61	76	86	107 1/4	111	138 1/2
12	14 3/4	37	46	62	77 1/4	87	108 1/2	112	139 3/4
13	16	38	47 1/4	63	78 1/2	88	109 3/4	113	141
14	17 1/4	39	48 1/2	64	79 3/4	89	111	114	142 1/4
15	18 1/2	40	49 3/4	65	81	90	112 1/4	115	143 1/2
16	19 3/4	41	51	66	82 1/4	91	113 1/2	116	144 3/4
17	21	42	52 1/4	67	83 1/2	92	114 3/4	117	146
18	22 1/4	43	53 1/2	68	84 3/4	93	116	118	147 1/4
19	23 1/2	44	54 3/4	69	86	94	117 1/4	119	148 1/2
20	24 3/4	45	56	70	87 1/4	95	118 1/2	120	149 3/4
21	26	46	57 1/4	71	88 1/2	96	119 3/4	121	151
22	27 1/4	47	58 1/2	72	89 3/4	97	121	122	152 1/4
23	28 1/2	48	59 3/4	73	91	98	122 1/4	123	153 1/2
24	29 3/4	49	61	74	92 1/4	99	123 1/2	124	154 3/4
25	31	50	62 1/4	75	93 1/2	100	124 3/4	125	156
26	32 1/4	51	63 1/2	76	94 3/4	101	126		

Sizes depend on rolling mill limits.



Design Patent No. 89,865

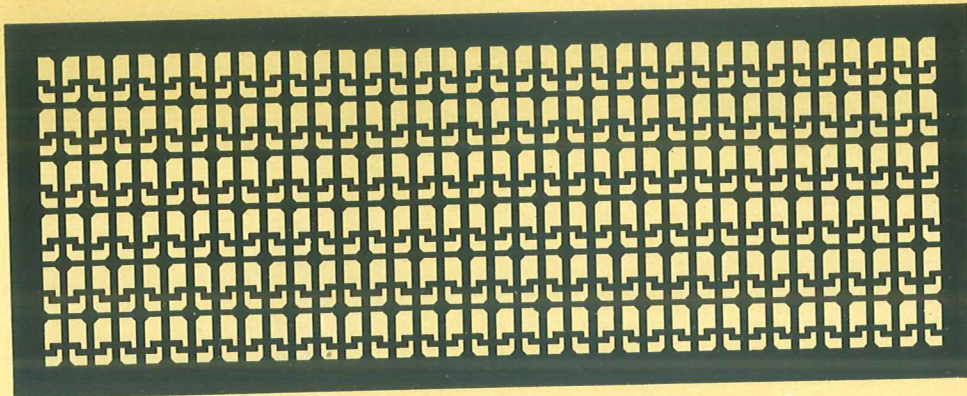
M No. 3



57 % Open Area

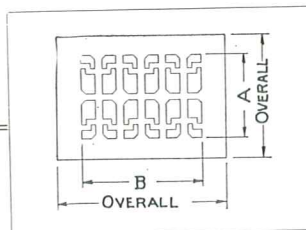
No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$4\frac{5}{16}$	$2\frac{1}{2}$	21	$90\frac{9}{16}$	50	41	....	$97\frac{1}{2}$
2	$8\frac{5}{8}$	$4\frac{7}{8}$	22	$94\frac{7}{8}$	$52\frac{3}{8}$	42	....	$99\frac{7}{8}$
3	$12\frac{1}{2}$	$7\frac{1}{4}$	23	$99\frac{3}{16}$	$54\frac{3}{4}$	43	....	$102\frac{1}{4}$
4	$17\frac{1}{4}$	$9\frac{5}{8}$	24	$103\frac{1}{2}$	$57\frac{1}{8}$	44	....	$104\frac{5}{8}$
5	$21\frac{9}{16}$	12	25	$107\frac{13}{16}$	$59\frac{1}{2}$	45	....	107
6	$25\frac{7}{8}$	$14\frac{3}{8}$	26	$112\frac{1}{8}$	$61\frac{7}{8}$	46	....	$109\frac{3}{8}$
7	$30\frac{3}{16}$	$16\frac{3}{4}$	27	$116\frac{7}{16}$	$64\frac{1}{4}$	47	....	$111\frac{3}{4}$
8	$34\frac{1}{2}$	$19\frac{1}{8}$	28	$120\frac{3}{4}$	$66\frac{5}{8}$	48	....	$114\frac{1}{8}$
9	$38\frac{13}{16}$	$21\frac{1}{2}$	29	$125\frac{1}{16}$	69	49	....	$116\frac{1}{2}$
10	$43\frac{1}{8}$	$23\frac{7}{8}$	30	$129\frac{3}{8}$	$71\frac{3}{8}$	50	....	$118\frac{7}{8}$
11	$47\frac{7}{16}$	$26\frac{1}{4}$	31	$133\frac{1}{16}$	$73\frac{3}{4}$	51	....	$121\frac{1}{4}$
12	$51\frac{3}{4}$	$28\frac{5}{8}$	32	138	$76\frac{1}{8}$	52	....	$123\frac{5}{8}$
13	$56\frac{1}{16}$	31	33	....	$78\frac{1}{2}$	53	....	126
14	$60\frac{3}{8}$	$33\frac{3}{8}$	34	....	$80\frac{7}{8}$	54	....	$128\frac{3}{8}$
15	$64\frac{11}{16}$	$35\frac{3}{4}$	35	....	$83\frac{1}{4}$	55	....	$130\frac{3}{4}$
16	69	$38\frac{1}{8}$	36	....	$85\frac{5}{8}$	56	....	$133\frac{1}{8}$
17	$73\frac{5}{16}$	$40\frac{1}{2}$	37	....	88	57	....	$135\frac{1}{2}$
18	$77\frac{5}{8}$	$42\frac{7}{8}$	38	....	$90\frac{3}{8}$	58	....	$137\frac{7}{8}$
19	$81\frac{1}{2}$	$45\frac{1}{4}$	39	....	$92\frac{3}{4}$	59	....	$140\frac{1}{4}$
20	$86\frac{1}{4}$	$47\frac{5}{8}$	40	....	$95\frac{1}{8}$	60	....	$142\frac{5}{8}$

Sizes depend on rolling mill limits.



Design Patent No. 89,864

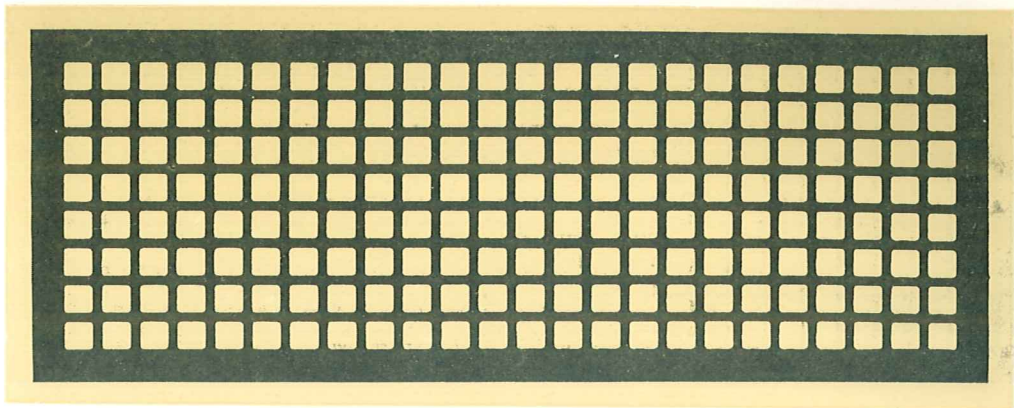
M No. 4



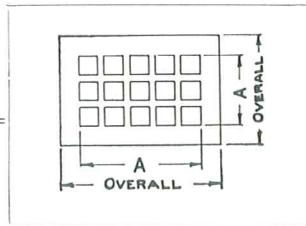
46 % Open Area

No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$1\frac{3}{4}$	$1\frac{9}{16}$	21	$41\frac{3}{4}$	$39\frac{1}{16}$	41	$81\frac{3}{4}$	$76\frac{9}{16}$
2	$3\frac{3}{4}$	$3\frac{7}{16}$	22	$43\frac{3}{4}$	$40\frac{15}{16}$	42	$83\frac{3}{4}$	$78\frac{7}{16}$
3	$5\frac{3}{4}$	$5\frac{5}{16}$	23	$45\frac{3}{4}$	$42\frac{13}{16}$	43	$85\frac{3}{4}$	$80\frac{5}{16}$
4	$7\frac{3}{4}$	$7\frac{3}{16}$	24	$47\frac{3}{4}$	$44\frac{11}{16}$	44	$87\frac{3}{4}$	$82\frac{3}{16}$
5	$9\frac{3}{4}$	$9\frac{1}{16}$	25	$49\frac{3}{4}$	$46\frac{9}{16}$	45	$89\frac{3}{4}$	$84\frac{1}{16}$
6	$11\frac{3}{4}$	$10\frac{15}{16}$	26	$51\frac{3}{4}$	$48\frac{7}{16}$	46	$91\frac{3}{4}$	$85\frac{15}{16}$
7	$13\frac{3}{4}$	$12\frac{13}{16}$	27	$53\frac{3}{4}$	$50\frac{5}{16}$	47	$93\frac{3}{4}$	$87\frac{13}{16}$
8	$15\frac{3}{4}$	$14\frac{11}{16}$	28	$55\frac{3}{4}$	$52\frac{3}{16}$	48	$95\frac{3}{4}$	$89\frac{11}{16}$
9	$17\frac{3}{4}$	$16\frac{9}{16}$	29	$57\frac{3}{4}$	$54\frac{1}{16}$	49	$97\frac{3}{4}$	$91\frac{9}{16}$
10	$19\frac{3}{4}$	$18\frac{7}{16}$	30	$59\frac{3}{4}$	$55\frac{15}{16}$	50	$99\frac{3}{4}$	$93\frac{7}{16}$
11	$21\frac{3}{4}$	$20\frac{5}{16}$	31	$61\frac{3}{4}$	$57\frac{13}{16}$	51	$101\frac{3}{4}$	$95\frac{5}{16}$
12	$23\frac{3}{4}$	$22\frac{3}{16}$	32	$63\frac{3}{4}$	$59\frac{11}{16}$	52	$103\frac{3}{4}$	$97\frac{3}{16}$
13	$25\frac{3}{4}$	$24\frac{1}{16}$	33	$65\frac{3}{4}$	$61\frac{9}{16}$	53	$105\frac{3}{4}$	$99\frac{1}{16}$
14	$27\frac{3}{4}$	$25\frac{15}{16}$	34	$67\frac{3}{4}$	$63\frac{7}{16}$	54	$107\frac{3}{4}$	$100\frac{15}{16}$
15	$29\frac{3}{4}$	$27\frac{13}{16}$	35	$69\frac{3}{4}$	$65\frac{5}{16}$	55	$109\frac{3}{4}$	$102\frac{13}{16}$
16	$31\frac{3}{4}$	$29\frac{11}{16}$	36	$71\frac{3}{4}$	$67\frac{3}{16}$	56	$111\frac{3}{4}$	$104\frac{11}{16}$
17	$33\frac{3}{4}$	$31\frac{9}{16}$	37	$73\frac{3}{4}$	$69\frac{1}{16}$	57	$113\frac{3}{4}$	$106\frac{9}{16}$
18	$35\frac{3}{4}$	$33\frac{7}{16}$	38	$75\frac{3}{4}$	$70\frac{15}{16}$	58	$115\frac{3}{4}$	$108\frac{7}{16}$
19	$37\frac{3}{4}$	$35\frac{5}{16}$	39	$77\frac{3}{4}$	$72\frac{13}{16}$	59	$117\frac{3}{4}$	$110\frac{5}{16}$
20	$39\frac{3}{4}$	$37\frac{3}{16}$	40	$79\frac{3}{4}$	$74\frac{11}{16}$	60	$119\frac{3}{4}$	$112\frac{3}{16}$

Sizes depend on rolling mill limits.



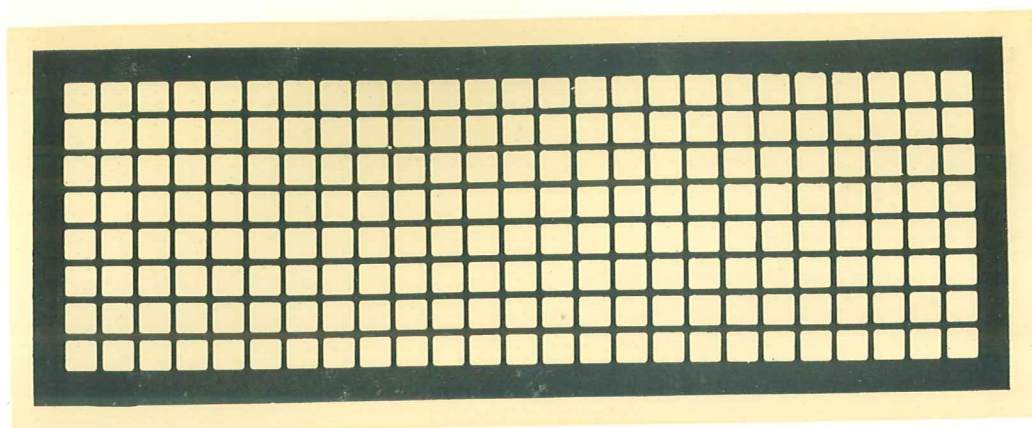
1" SQUARE
3/8" BAR



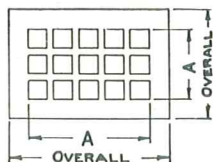
53% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	2 3/8	27	36 3/4	52	71 1/8	77	105 1/2	102	139 7/8
3	3 3/4	28	38 1/8	53	72 1/2	78	106 7/8	103	141 1/4
4	5 1/8	29	39 1/2	54	73 3/8	79	108 1/4	104	142 5/8
5	6 1/2	30	40 7/8	55	75 1/4	80	109 5/8	105	144
6	7 7/8	31	42 1/4	56	76 5/8	81	111	106	145 3/8
7	9 1/4	32	43 5/8	57	78	82	112 3/8	107	146 3/4
8	10 5/8	33	45	58	79 3/8	83	113 3/4	108	148 1/8
9	12	34	46 3/8	59	80 3/4	84	115 1/8	109	149 1/2
10	13 3/8	35	47 3/4	60	82 1/8	85	116 1/2	110	150 7/8
11	14 3/4	36	49 1/8	61	83 1/2	86	117 7/8	111	152 1/4
12	16 1/8	37	50 1/2	62	84 7/8	87	119 1/4	112	153 5/8
13	17 1/2	38	51 7/8	63	86 1/4	88	120 5/8	113	155
14	18 7/8	39	53 1/4	64	87 5/8	89	122	114	156 3/8
15	20 1/4	40	54 5/8	65	89	90	123 3/8	115	157 3/4
16	21 5/8	41	56	66	90 3/8	91	124 3/4	116	159 1/8
17	23	42	57 3/8	67	91 3/4	92	126 1/8	117	160 1/2
18	24 3/8	43	58 3/4	68	93 1/8	93	127 1/2	118	161 7/8
19	25 3/4	44	60 1/8	69	94 1/2	94	128 7/8	119	163 1/4
20	27 1/8	45	61 1/2	70	95 7/8	95	130 1/4	120	164 5/8
21	28 1/2	46	62 7/8	71	97 1/4	96	131 5/8	121	166
22	29 7/8	47	64 1/4	72	98 5/8	97	133	122	167 3/8
23	31 1/4	48	65 5/8	73	100	98	134 3/8	123	168 3/4
24	32 5/8	49	67	74	101 3/8	99	135 3/4	124	170 1/8
25	34	50	68 3/8	75	102 3/4	100	137 1/8	125	171 1/2
26	35 3/8	51	69 3/4	76	104 1/8	101	138 1/2		

Sizes depend on rolling mill limits.



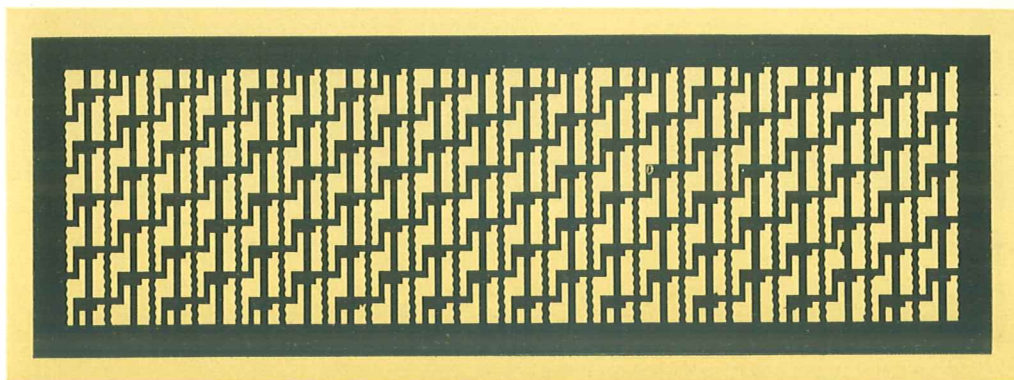
1 $\frac{1}{8}$ " SQUARE
 $\frac{1}{4}$ " BAR



67% Open Area

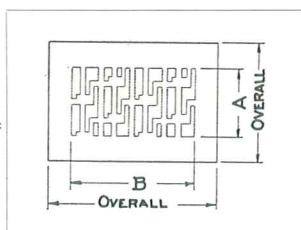
No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	2 $\frac{1}{2}$	27	36 $\frac{7}{8}$	52	71 $\frac{1}{4}$	77	105 $\frac{5}{8}$	102	140
3	3 $\frac{7}{8}$	28	38 $\frac{1}{4}$	53	72 $\frac{5}{8}$	78	107	103	141 $\frac{3}{8}$
4	5 $\frac{1}{4}$	29	39 $\frac{5}{8}$	54	74	79	108 $\frac{3}{8}$	104	142 $\frac{3}{4}$
5	6 $\frac{5}{8}$	30	41	55	75 $\frac{3}{8}$	80	109 $\frac{3}{4}$	105	144 $\frac{1}{8}$
6	8	31	42 $\frac{3}{8}$	56	76 $\frac{3}{4}$	81	111 $\frac{1}{8}$	106	145 $\frac{1}{2}$
7	9 $\frac{3}{8}$	32	43 $\frac{3}{4}$	57	78 $\frac{1}{8}$	82	112 $\frac{1}{2}$	107	146 $\frac{7}{8}$
8	10 $\frac{3}{4}$	33	45 $\frac{1}{8}$	58	79 $\frac{1}{2}$	83	113 $\frac{7}{8}$	108	148 $\frac{1}{4}$
9	12 $\frac{1}{8}$	34	46 $\frac{1}{2}$	59	80 $\frac{7}{8}$	84	115 $\frac{1}{4}$	109	149 $\frac{5}{8}$
10	13 $\frac{1}{2}$	35	47 $\frac{7}{8}$	60	82 $\frac{1}{4}$	85	116 $\frac{5}{8}$	110	151
11	14 $\frac{7}{8}$	36	49 $\frac{1}{4}$	61	83 $\frac{5}{8}$	86	118	111	152 $\frac{3}{8}$
12	16 $\frac{1}{4}$	37	50 $\frac{5}{8}$	62	85	87	119 $\frac{3}{8}$	112	153 $\frac{3}{4}$
13	17 $\frac{5}{8}$	38	52	63	86 $\frac{3}{8}$	88	120 $\frac{3}{4}$	113	155 $\frac{1}{8}$
14	19	39	53 $\frac{3}{8}$	64	87 $\frac{3}{4}$	89	122 $\frac{1}{8}$	114	156 $\frac{1}{2}$
15	20 $\frac{3}{8}$	40	54 $\frac{3}{4}$	65	89 $\frac{1}{8}$	90	123 $\frac{1}{2}$	115	157 $\frac{7}{8}$
16	21 $\frac{3}{4}$	41	56 $\frac{1}{8}$	66	90 $\frac{1}{2}$	91	124 $\frac{7}{8}$	116	159 $\frac{1}{4}$
17	23 $\frac{1}{8}$	42	57 $\frac{1}{2}$	67	91 $\frac{7}{8}$	92	126 $\frac{1}{4}$	117	160 $\frac{5}{8}$
18	24 $\frac{1}{2}$	43	58 $\frac{7}{8}$	68	93 $\frac{1}{4}$	93	127 $\frac{5}{8}$	118	162
19	25 $\frac{7}{8}$	44	60 $\frac{1}{4}$	69	94 $\frac{5}{8}$	94	129	119	163 $\frac{3}{8}$
20	27 $\frac{1}{4}$	45	61 $\frac{5}{8}$	70	96	95	130 $\frac{3}{8}$	120	164 $\frac{3}{4}$
21	28 $\frac{5}{8}$	46	63	71	97 $\frac{3}{8}$	96	131 $\frac{3}{4}$	121	166 $\frac{1}{8}$
22	30	47	64 $\frac{3}{8}$	72	98 $\frac{3}{4}$	97	133 $\frac{1}{8}$	122	167 $\frac{1}{2}$
23	31 $\frac{3}{8}$	48	65 $\frac{3}{4}$	73	100 $\frac{1}{8}$	98	134 $\frac{1}{2}$	123	168 $\frac{7}{8}$
24	32 $\frac{3}{4}$	49	67 $\frac{1}{8}$	74	101 $\frac{1}{2}$	99	135 $\frac{7}{8}$	124	170 $\frac{1}{4}$
25	34 $\frac{1}{8}$	50	68 $\frac{1}{2}$	75	102 $\frac{7}{8}$	100	137 $\frac{1}{4}$	125	171 $\frac{5}{8}$
26	35 $\frac{1}{2}$	51	69 $\frac{7}{8}$	76	104 $\frac{1}{4}$	101	138 $\frac{5}{8}$		

Sizes depend on rolling mill limits.



Design Patent No. 89,866

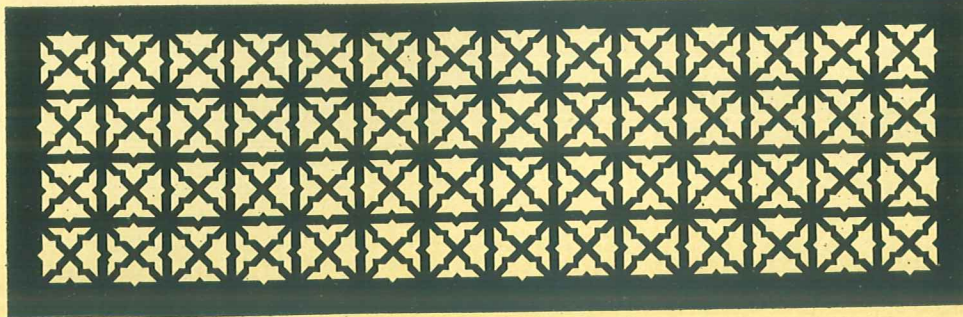
M No. 5



50 % Open Area

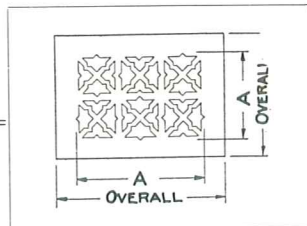
No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches	No. of Holes	A Inches	B Inches
1	$1\frac{3}{4}$	$1\frac{1}{2}$	21	$41\frac{3}{4}$	$36\frac{1}{2}$	41	$81\frac{3}{4}$	$71\frac{1}{2}$
2	$3\frac{3}{4}$	$3\frac{9}{32}$	22	$43\frac{3}{4}$	$38\frac{9}{32}$	42	$83\frac{3}{4}$	$73\frac{9}{32}$
3	$5\frac{3}{4}$	$5\frac{1}{32}$	23	$45\frac{3}{4}$	$40\frac{1}{32}$	43	$85\frac{3}{4}$	$75\frac{1}{32}$
4	$7\frac{3}{4}$	$6\frac{25}{32}$	24	$47\frac{3}{4}$	$41\frac{25}{32}$	44	$87\frac{3}{4}$	$76\frac{25}{32}$
5	$9\frac{3}{4}$	$8\frac{17}{32}$	25	$49\frac{3}{4}$	$43\frac{17}{32}$	45	$89\frac{3}{4}$	$78\frac{17}{32}$
6	$11\frac{3}{4}$	$10\frac{9}{32}$	26	$51\frac{3}{4}$	$45\frac{9}{32}$	46	$91\frac{3}{4}$	$80\frac{9}{32}$
7	$13\frac{3}{4}$	$12\frac{1}{32}$	27	$53\frac{3}{4}$	$47\frac{1}{32}$	47	$93\frac{3}{4}$	$82\frac{1}{32}$
8	$15\frac{3}{4}$	$13\frac{25}{32}$	28	$55\frac{3}{4}$	$48\frac{25}{32}$	48	$95\frac{3}{4}$	$83\frac{25}{32}$
9	$17\frac{3}{4}$	$15\frac{17}{32}$	29	$57\frac{3}{4}$	$50\frac{17}{32}$	49	$97\frac{3}{4}$	$85\frac{17}{32}$
10	$19\frac{3}{4}$	$17\frac{9}{32}$	30	$59\frac{3}{4}$	$52\frac{9}{32}$	50	$99\frac{3}{4}$	$87\frac{9}{32}$
11	$21\frac{3}{4}$	$19\frac{1}{32}$	31	$61\frac{3}{4}$	$54\frac{1}{32}$	51	$101\frac{3}{4}$	$89\frac{1}{32}$
12	$23\frac{3}{4}$	$20\frac{25}{32}$	32	$63\frac{3}{4}$	$55\frac{25}{32}$	52	$103\frac{3}{4}$	$90\frac{25}{32}$
13	$25\frac{3}{4}$	$22\frac{17}{32}$	33	$65\frac{3}{4}$	$57\frac{17}{32}$	53	$105\frac{3}{4}$	$92\frac{17}{32}$
14	$27\frac{3}{4}$	$24\frac{9}{32}$	34	$67\frac{3}{4}$	$59\frac{9}{32}$	54	$107\frac{3}{4}$	$94\frac{9}{32}$
15	$29\frac{3}{4}$	$26\frac{1}{32}$	35	$69\frac{3}{4}$	$61\frac{1}{32}$	55	$109\frac{3}{4}$	$96\frac{1}{32}$
16	$31\frac{3}{4}$	$27\frac{25}{32}$	36	$71\frac{3}{4}$	$62\frac{25}{32}$	56	$111\frac{3}{4}$	$97\frac{25}{32}$
17	$33\frac{3}{4}$	$29\frac{17}{32}$	37	$73\frac{3}{4}$	$64\frac{17}{32}$	57	$113\frac{3}{4}$	$99\frac{17}{32}$
18	$35\frac{3}{4}$	$31\frac{9}{32}$	38	$75\frac{3}{4}$	$66\frac{9}{32}$	58	$115\frac{3}{4}$	$101\frac{9}{32}$
19	$37\frac{3}{4}$	$33\frac{1}{32}$	39	$77\frac{3}{4}$	$68\frac{1}{32}$	59	$117\frac{3}{4}$	$103\frac{1}{32}$
20	$39\frac{3}{4}$	$34\frac{25}{32}$	40	$79\frac{3}{4}$	$69\frac{25}{32}$	60	$119\frac{3}{4}$	$104\frac{25}{32}$

Sizes depend on rolling mill limits.



Design Patent No. 90,096

M No. 6

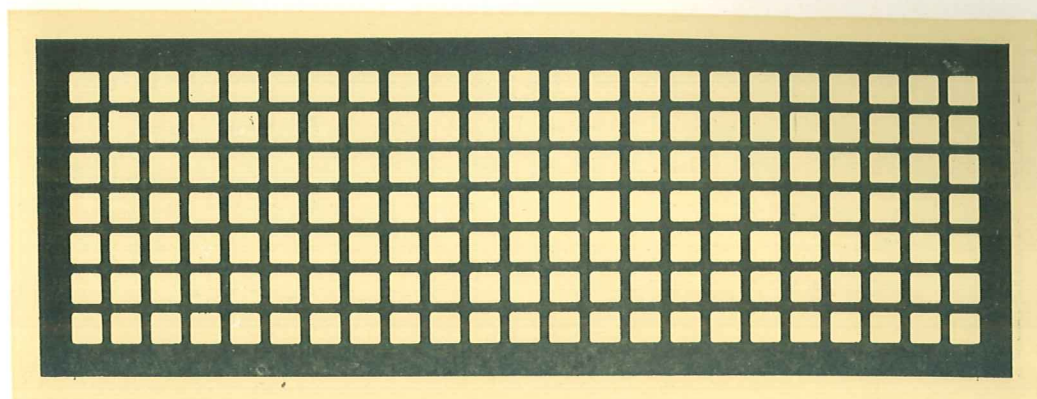


51 % Open Area

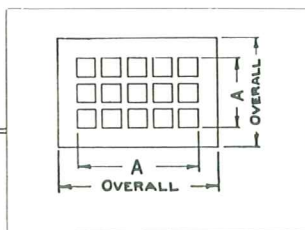
No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	2	13	$29\frac{3}{4}$	25	$57\frac{1}{2}$	37	$85\frac{1}{4}$	49	113
2	$4\frac{5}{16}$	14	$32\frac{1}{16}$	26	$59\frac{13}{16}$	38	$87\frac{9}{16}$	50	$115\frac{5}{16}$
3	$6\frac{5}{8}$	15	$34\frac{3}{8}$	27	$62\frac{1}{8}$	39	$89\frac{7}{8}$	51	$117\frac{5}{8}$
4	$8\frac{1}{16}$	16	$36\frac{11}{16}$	28	$64\frac{7}{16}$	40	$92\frac{3}{16}$	52	$119\frac{1}{8}$
5	$11\frac{1}{4}$	17	39	29	$66\frac{3}{4}$	41	$94\frac{1}{2}$	53	$122\frac{1}{4}$
6	$13\frac{9}{16}$	18	$41\frac{5}{16}$	30	$69\frac{1}{16}$	42	$96\frac{13}{16}$	54	$124\frac{9}{16}$
7	$15\frac{7}{8}$	19	$43\frac{5}{8}$	31	$71\frac{3}{8}$	43	$99\frac{1}{8}$	55	$126\frac{7}{8}$
8	$18\frac{3}{16}$	20	$45\frac{1}{16}$	32	$73\frac{11}{16}$	44	$101\frac{7}{16}$	56	$129\frac{3}{16}$
9	$20\frac{1}{2}$	21	$48\frac{1}{4}$	33	76	45	$103\frac{3}{4}$	57	$131\frac{1}{2}$
10	$22\frac{13}{16}$	22	$50\frac{9}{16}$	34	$78\frac{5}{16}$	46	$106\frac{1}{16}$	58	$133\frac{1}{8}$
11	$25\frac{1}{8}$	23	$52\frac{7}{8}$	35	$80\frac{5}{8}$	47	$108\frac{3}{8}$	59	$136\frac{1}{8}$
12	$27\frac{7}{16}$	24	$55\frac{3}{16}$	36	$82\frac{1}{16}$	48	$110\frac{1}{16}$	60	$138\frac{7}{16}$

Sizes depend on rolling mill limits.

NOTE: The triangular projections will extend on either side $\frac{5}{32}$ " beyond the dimensions given in the table above.



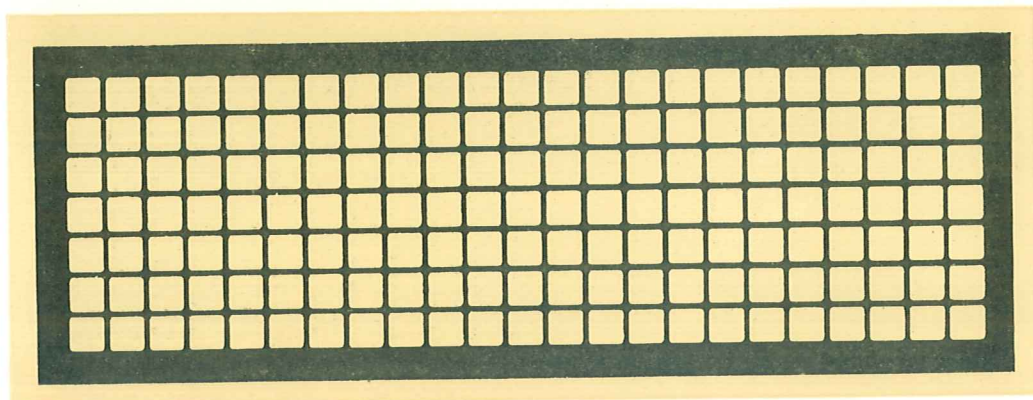
1 $\frac{1}{8}$ " SQUARE
 $\frac{3}{8}$ " BAR



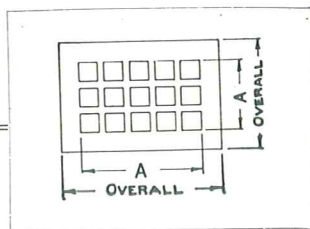
56% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	2 $\frac{5}{8}$	27	40 $\frac{1}{8}$	52	77 $\frac{5}{8}$	77	115 $\frac{1}{8}$	102	152 $\frac{5}{8}$
3	4 $\frac{1}{8}$	28	41 $\frac{5}{8}$	53	79 $\frac{1}{8}$	78	116 $\frac{5}{8}$	103	154 $\frac{1}{8}$
4	5 $\frac{3}{8}$	29	43 $\frac{1}{8}$	54	80 $\frac{5}{8}$	79	118 $\frac{1}{8}$	104	155 $\frac{5}{8}$
5	7 $\frac{1}{8}$	30	44 $\frac{5}{8}$	55	82 $\frac{1}{8}$	80	119 $\frac{5}{8}$	105	157 $\frac{1}{8}$
6	8 $\frac{3}{8}$	31	46 $\frac{1}{8}$	56	83 $\frac{5}{8}$	81	121 $\frac{1}{8}$	106	158 $\frac{5}{8}$
7	10 $\frac{1}{8}$	32	47 $\frac{5}{8}$	57	85 $\frac{1}{8}$	82	122 $\frac{5}{8}$	107	160 $\frac{1}{8}$
8	11 $\frac{5}{8}$	33	49 $\frac{1}{8}$	58	86 $\frac{5}{8}$	83	124 $\frac{1}{8}$	108	161 $\frac{5}{8}$
9	13 $\frac{1}{8}$	34	50 $\frac{5}{8}$	59	88 $\frac{1}{8}$	84	125 $\frac{5}{8}$	109	163 $\frac{1}{8}$
10	14 $\frac{5}{8}$	35	52 $\frac{1}{8}$	60	89 $\frac{5}{8}$	85	127 $\frac{1}{8}$	110	164 $\frac{5}{8}$
11	16 $\frac{1}{8}$	36	53 $\frac{5}{8}$	61	91 $\frac{1}{8}$	86	128 $\frac{5}{8}$	111	166 $\frac{1}{8}$
12	17 $\frac{5}{8}$	37	55 $\frac{1}{8}$	62	92 $\frac{5}{8}$	87	130 $\frac{1}{8}$	112	167 $\frac{5}{8}$
13	19 $\frac{1}{8}$	38	56 $\frac{5}{8}$	63	94 $\frac{1}{8}$	88	131 $\frac{5}{8}$	113	169 $\frac{1}{8}$
14	20 $\frac{5}{8}$	39	58 $\frac{1}{8}$	64	95 $\frac{5}{8}$	89	133 $\frac{1}{8}$	114	170 $\frac{5}{8}$
15	22 $\frac{1}{8}$	40	59 $\frac{5}{8}$	65	97 $\frac{1}{8}$	90	134 $\frac{5}{8}$	115	172 $\frac{1}{8}$
16	23 $\frac{5}{8}$	41	61 $\frac{1}{8}$	66	98 $\frac{5}{8}$	91	136 $\frac{1}{8}$	116	173 $\frac{5}{8}$
17	25 $\frac{1}{8}$	42	62 $\frac{5}{8}$	67	100 $\frac{1}{8}$	92	137 $\frac{5}{8}$	117	175 $\frac{1}{8}$
18	26 $\frac{5}{8}$	43	64 $\frac{1}{8}$	68	101 $\frac{5}{8}$	93	139 $\frac{1}{8}$	118	176 $\frac{5}{8}$
19	28 $\frac{1}{8}$	44	65 $\frac{5}{8}$	69	103 $\frac{1}{8}$	94	140 $\frac{5}{8}$	119	178 $\frac{1}{8}$
20	29 $\frac{5}{8}$	45	67 $\frac{1}{8}$	70	104 $\frac{5}{8}$	95	142 $\frac{1}{8}$	120	179 $\frac{5}{8}$
21	31 $\frac{1}{8}$	46	68 $\frac{5}{8}$	71	106 $\frac{1}{8}$	96	143 $\frac{5}{8}$	121	181 $\frac{1}{8}$
22	32 $\frac{5}{8}$	47	70 $\frac{1}{8}$	72	107 $\frac{5}{8}$	97	145 $\frac{1}{8}$	122	182 $\frac{5}{8}$
23	34 $\frac{1}{8}$	48	71 $\frac{5}{8}$	73	109 $\frac{1}{8}$	98	146 $\frac{5}{8}$	123	184 $\frac{1}{8}$
24	35 $\frac{5}{8}$	49	73 $\frac{1}{8}$	74	110 $\frac{5}{8}$	99	148 $\frac{1}{8}$	124	185 $\frac{5}{8}$
25	37 $\frac{1}{8}$	50	74 $\frac{5}{8}$	75	112 $\frac{1}{8}$	100	149 $\frac{5}{8}$	125	187 $\frac{1}{8}$
26	38 $\frac{5}{8}$	51	76 $\frac{1}{8}$	76	113 $\frac{5}{8}$	101	151 $\frac{1}{8}$		

Sizes depend on rolling mill limits.



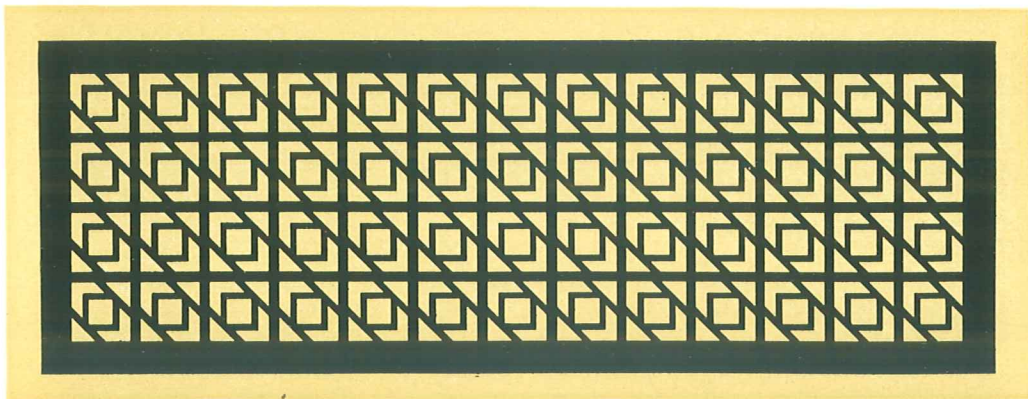
1 1/4" SQUARE
1/4" BAR



69% Open Area

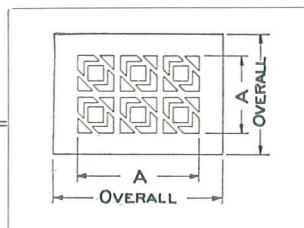
No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	2 3/4	26	38 3/4	50	74 3/4	74	110 3/4	98	146 3/4
3	4 1/4	27	40 1/4	51	76 1/4	75	112 1/4	99	148 1/4
4	5 3/4	28	41 3/4	52	77 3/4	76	113 3/4	100	149 3/4
5	7 1/4	29	43 1/4	53	79 1/4	77	115 1/4	101	151 1/4
6	8 3/4	30	44 3/4	54	80 3/4	78	116 3/4	102	152 3/4
7	10 1/4	31	46 1/4	55	82 1/4	79	118 1/4	103	154 1/4
8	11 3/4	32	47 3/4	56	83 3/4	80	119 3/4	104	155 3/4
9	13 1/4	33	49 1/4	57	85 1/4	81	121 1/4	105	157 1/4
10	14 3/4	34	50 3/4	58	86 3/4	82	122 3/4	106	158 3/4
11	16 1/4	35	52 1/4	59	88 1/4	83	124 1/4	107	160 1/4
12	17 3/4	36	53 3/4	60	89 3/4	84	125 3/4	108	161 3/4
13	19 1/4	37	55 1/4	61	91 1/4	85	127 1/4	109	163 1/4
14	20 3/4	38	56 3/4	62	92 3/4	86	128 3/4	110	164 3/4
15	22 1/4	39	58 1/4	63	94 1/4	87	130 1/4	111	166 1/4
16	23 3/4	40	59 3/4	64	95 3/4	88	131 3/4	112	167 3/4
17	25 1/4	41	61 1/4	65	97 1/4	89	133 1/4	113	169 1/4
18	26 3/4	42	62 3/4	66	98 3/4	90	134 3/4	114	170 3/4
19	28 1/4	43	64 1/4	67	100 1/4	91	136 1/4	115	172 1/4
20	29 3/4	44	65 3/4	68	101 3/4	92	137 3/4	116	173 3/4
21	31 1/4	45	67 1/4	69	103 1/4	93	139 1/4	117	175 1/4
22	32 3/4	46	68 3/4	70	104 3/4	94	140 3/4	118	176 3/4
23	34 1/4	47	70 1/4	71	106 1/4	95	142 1/4	119	178 1/4
24	35 3/4	48	71 3/4	72	107 3/4	96	143 3/4	120	179 3/4
25	37 1/4	49	73 1/4	73	109 1/4	97	145 1/4		

Sizes depend on rolling mill limits.



Design Patent No. 91,266

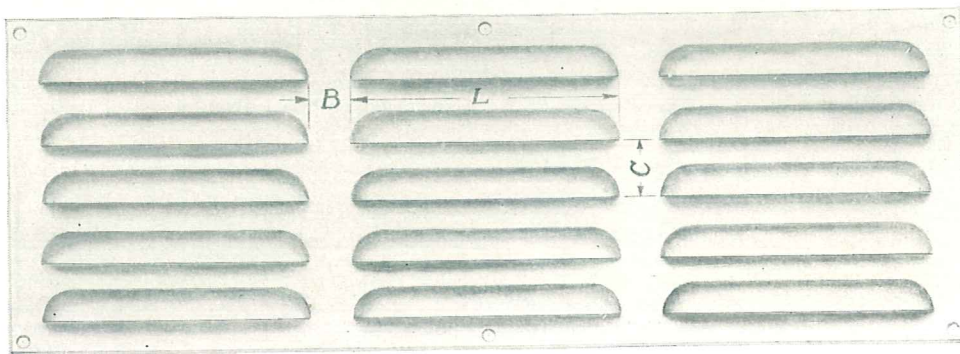
M No. 7



47 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
1	2 $\frac{1}{4}$	13	33 $\frac{3}{4}$	25	65 $\frac{1}{4}$	37	96 $\frac{3}{4}$
2	4 $\frac{7}{8}$	14	36 $\frac{3}{8}$	26	67 $\frac{7}{8}$	38	99 $\frac{3}{8}$
3	7 $\frac{1}{2}$	15	39	27	70 $\frac{1}{2}$	39	102
4	10 $\frac{1}{8}$	16	41 $\frac{5}{8}$	28	73 $\frac{1}{8}$	40	104 $\frac{5}{8}$
5	12 $\frac{3}{4}$	17	44 $\frac{1}{4}$	29	75 $\frac{3}{4}$	41	107 $\frac{1}{4}$
6	15 $\frac{3}{8}$	18	46 $\frac{7}{8}$	30	78 $\frac{3}{8}$	42	109 $\frac{7}{8}$
7	18	19	49 $\frac{1}{2}$	31	81	43	112 $\frac{1}{2}$
8	20 $\frac{5}{8}$	20	52 $\frac{1}{8}$	32	83 $\frac{5}{8}$	44	115 $\frac{1}{8}$
9	23 $\frac{1}{4}$	21	54 $\frac{3}{4}$	33	86 $\frac{1}{4}$	45	117 $\frac{3}{4}$
10	25 $\frac{7}{8}$	22	57 $\frac{3}{8}$	34	88 $\frac{7}{8}$	46	120 $\frac{3}{8}$
11	28 $\frac{1}{2}$	23	60	35	91 $\frac{1}{2}$	47	123
12	31 $\frac{1}{8}$	24	62 $\frac{5}{8}$	36	94 $\frac{1}{8}$	48	125 $\frac{5}{8}$

Sizes depend on rolling mill limits.



GRILLES with Fixed Louvres, which are designed to allow ventilation and at the same time conceal from view the space behind, can be furnished in steel, brass, bronze, or aluminum in .0625" thick or lighter.

Maximum overall width of grille with louvres parallel to width (horizontal dimension) is 48". Maximum overall height is 96".

We are prepared to furnish louvres of the following dimensions:—

Length "L"

$3\frac{1}{2}"$, $5\frac{1}{2}"$, 7"

Bar "B"

Not less than $1\frac{3}{16}"$ for $3\frac{1}{2}"$ size,

Not less than $1\frac{1}{4}"$ for $5\frac{1}{2}"$ size,

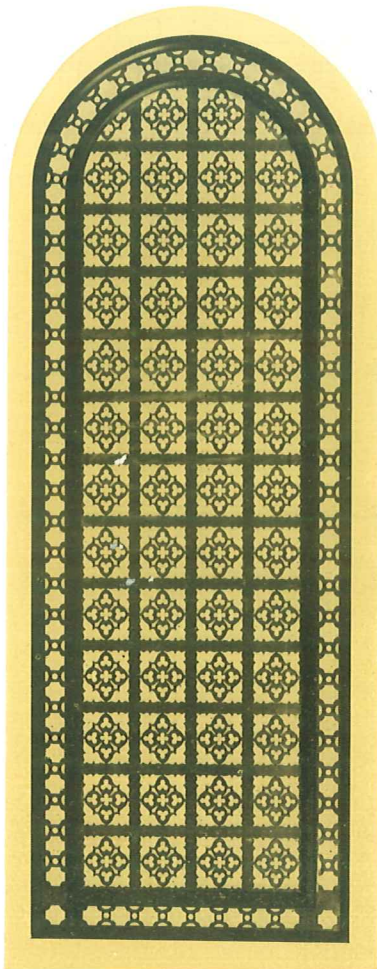
Not less than $1\frac{7}{16}"$ for 7" size.

Spacing "C"

This distance is fixed at 1" for all sizes.

Combinations of one or more lengths of louvres can be furnished on one grille, but in that case "B" must be not less than the dimension shown for the longest length chosen as shown above.

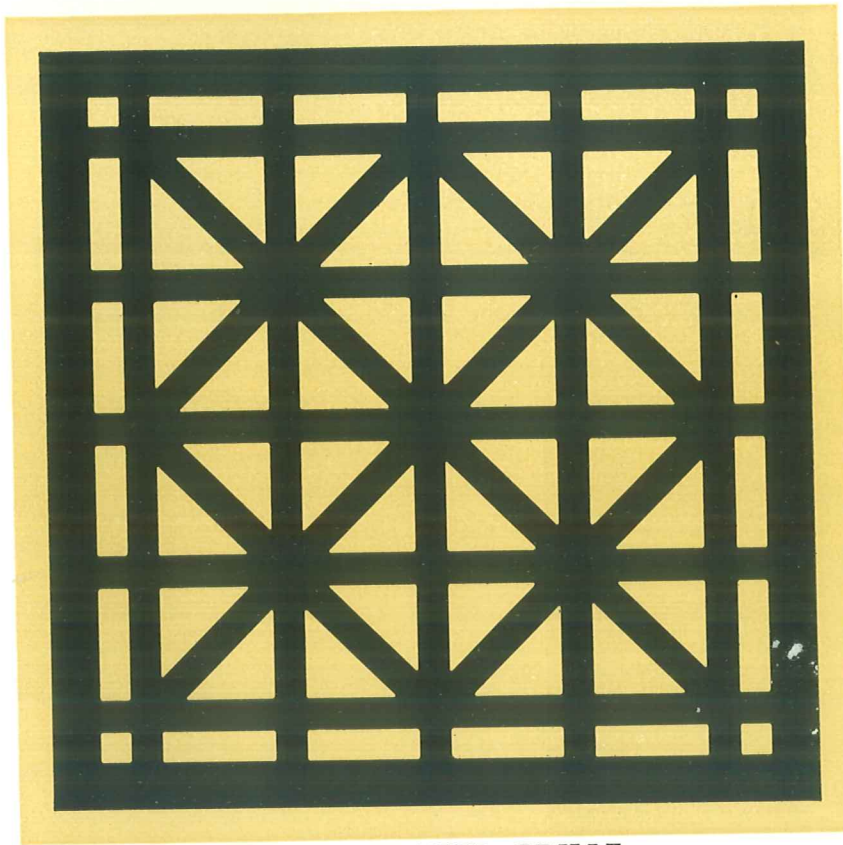
Other sizes or lengths can be furnished by special arrangement.



THE illustration shows a specially designed grille of perforated metal, measuring $2' 7\frac{1}{4}"$ in width by $7' 4\frac{1}{4}"$ in height. Note that the units forming the border for the rounded top are perforated at an angle to conform to a radial line from the centre of the spring line of the grille.

Perforating this grille was a difficult, intricate job, requiring painstaking care, and is illustrated here merely to show that we are in a position to perforate specially designed intricate grilles, which are worked out to harmonize with the motif as planned by the Architect.

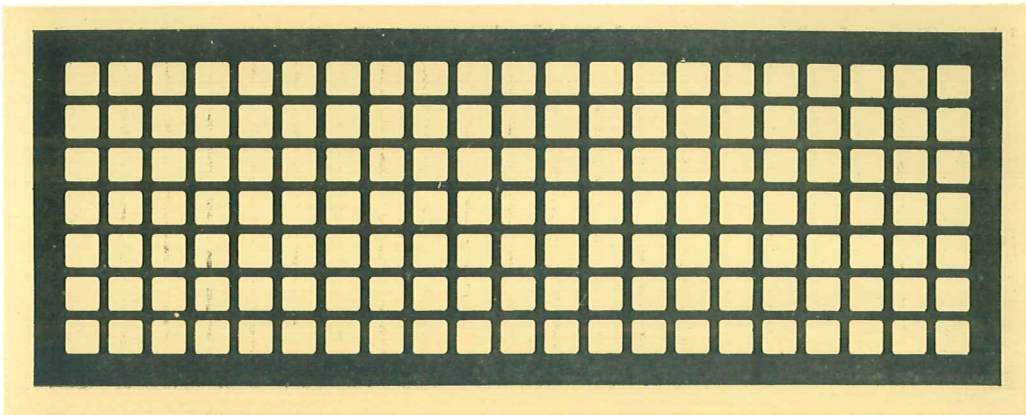
Grilles of this character can be perforated in steel, brass, bronze or aluminum in gauges up to $\frac{3}{16}"$, and in stainless steel up to No. 16 U. S. gauge.



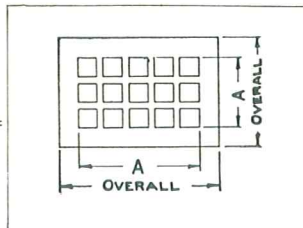
LOUD SPEAKER GRILLE

THE illustration above shows a standard loud speaker grille. This type of grille is available in only one size, which measures $24\frac{1}{2}$ " x $24\frac{1}{2}$ " overall. The borders or blank margins around the edges can, however, be increased or decreased a trifle to vary the overall dimensions to suit local installation conditions.

This type of grille is generally furnished in No. 10 U. S. Gauge Steel, with a baked-on enamel finish, but can also be furnished in other materials or finishes.



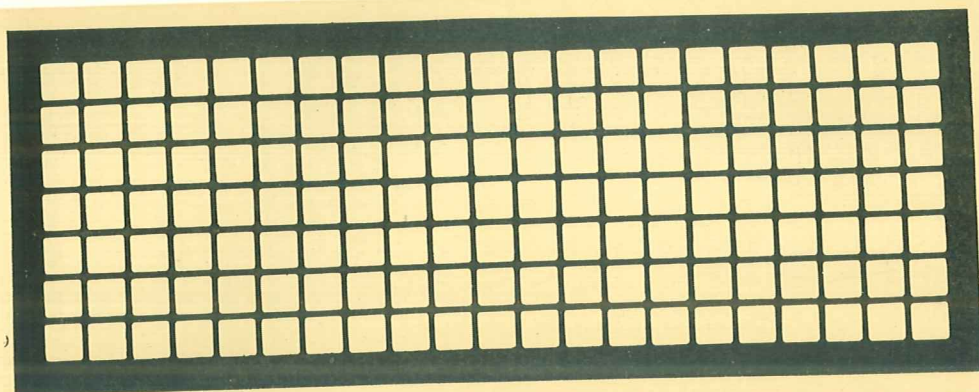
1 1/4" SQUARE
3/8" BAR



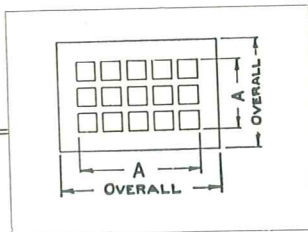
59% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	27 7/8	24	38 5/8	46	74 3/8	68	110 1/8	90	145 7/8
3	41 1/2	25	40 1/4	47	76	69	111 3/4	91	147 1/2
4	61 7/8	26	41 7/8	48	77 5/8	70	113 3/8	92	149 1/8
5	73 1/4	27	43 1/2	49	79 1/4	71	115	93	150 3/4
6	93 3/8	28	45 1/8	50	80 7/8	72	116 5/8	94	152 3/8
7	11	29	46 3/4	51	82 1/2	73	118 1/4	95	154
8	12 5/8	30	48 3/8	52	84 1/8	74	119 7/8	96	155 5/8
9	14 1/4	31	50	53	85 3/4	75	121 1/2	97	157 1/4
10	15 7/8	32	51 5/8	54	87 3/8	76	123 1/8	98	158 7/8
11	17 1/2	33	53 1/4	55	89	77	124 3/4	99	160 1/2
12	19 1/8	34	54 7/8	56	90 5/8	78	126 3/8	100	162 1/8
13	20 3/4	35	56 1/2	57	92 1/4	79	128	101	163 3/4
14	22 3/8	36	58 1/8	58	93 7/8	80	129 5/8	102	165 3/8
15	24	37	59 3/4	59	95 1/2	81	131 1/4	103	167
16	25 5/8	38	61 3/8	60	97 1/8	82	132 7/8	104	168 5/8
17	27 1/4	39	63	61	98 3/4	83	134 1/2	105	170 1/4
18	28 7/8	40	64 5/8	62	100 3/8	84	136 1/8	106	171 7/8
19	30 1/2	41	66 1/4	63	102	85	137 3/4	107	173 1/2
20	32 7/8	42	67 7/8	64	103 5/8	86	139 3/8	108	175 1/8
21	33 3/4	43	69 1/2	65	105 1/4	87	141	109	176 3/4
22	35 3/8	44	71 1/8	66	106 7/8	88	142 5/8	110	178 3/8
23	37	45	72 3/4	67	108 1/2	89	144 1/4		

Sizes depend on rolling mill limits.



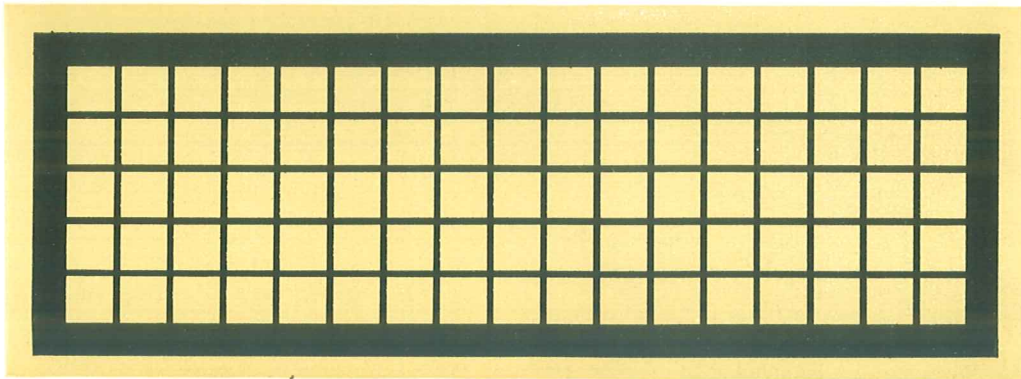
1 $\frac{3}{8}$ " SQUARE
 $\frac{1}{4}$ " BAR



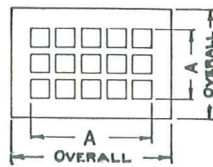
72% Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	3	24	38 $\frac{3}{4}$	46	74 $\frac{1}{2}$	68	110 $\frac{1}{4}$	90	146
3	4 $\frac{5}{8}$	25	40 $\frac{3}{8}$	47	76 $\frac{1}{8}$	69	111 $\frac{7}{8}$	91	147 $\frac{5}{8}$
4	6 $\frac{1}{4}$	26	42	48	77 $\frac{3}{4}$	70	113 $\frac{1}{2}$	92	149 $\frac{1}{4}$
5	7 $\frac{7}{8}$	27	43 $\frac{5}{8}$	49	79 $\frac{3}{8}$	71	115 $\frac{1}{8}$	93	150 $\frac{7}{8}$
6	9 $\frac{1}{2}$	28	45 $\frac{1}{4}$	50	81	72	116 $\frac{3}{4}$	94	152 $\frac{1}{2}$
7	11 $\frac{1}{8}$	29	46 $\frac{7}{8}$	51	82 $\frac{5}{8}$	73	118 $\frac{3}{8}$	95	154 $\frac{1}{8}$
8	12 $\frac{3}{4}$	30	48 $\frac{1}{2}$	52	84 $\frac{1}{4}$	74	120	96	155 $\frac{3}{4}$
9	14 $\frac{3}{8}$	31	50 $\frac{1}{8}$	53	85 $\frac{7}{8}$	75	121 $\frac{5}{8}$	97	157 $\frac{3}{8}$
10	16	32	51 $\frac{3}{4}$	54	87 $\frac{1}{2}$	76	123 $\frac{1}{4}$	98	159
11	17 $\frac{5}{8}$	33	53 $\frac{3}{8}$	55	89 $\frac{1}{8}$	77	124 $\frac{7}{8}$	99	160 $\frac{5}{8}$
12	19 $\frac{1}{4}$	34	55	56	90 $\frac{3}{4}$	78	126 $\frac{1}{2}$	100	162 $\frac{1}{4}$
13	20 $\frac{7}{8}$	35	56 $\frac{5}{8}$	57	92 $\frac{3}{8}$	79	128 $\frac{1}{8}$	101	163 $\frac{7}{8}$
14	22 $\frac{1}{2}$	36	58 $\frac{1}{4}$	58	94	80	129 $\frac{3}{4}$	102	165 $\frac{1}{2}$
15	24 $\frac{1}{8}$	37	59 $\frac{7}{8}$	59	95 $\frac{5}{8}$	81	131 $\frac{3}{8}$	103	167 $\frac{1}{8}$
16	25 $\frac{3}{4}$	38	61 $\frac{1}{2}$	60	97 $\frac{1}{4}$	82	133	104	168 $\frac{3}{4}$
17	27 $\frac{3}{8}$	39	63 $\frac{1}{8}$	61	98 $\frac{7}{8}$	83	134 $\frac{5}{8}$	105	170 $\frac{3}{8}$
18	29	40	64 $\frac{3}{4}$	62	100 $\frac{1}{2}$	84	136 $\frac{1}{4}$	106	172
19	30 $\frac{5}{8}$	41	66 $\frac{3}{8}$	63	102 $\frac{1}{8}$	85	137 $\frac{7}{8}$	107	173 $\frac{5}{8}$
20	32 $\frac{1}{4}$	42	68	64	103 $\frac{3}{4}$	86	139 $\frac{1}{2}$	108	175 $\frac{1}{4}$
21	33 $\frac{7}{8}$	43	69 $\frac{5}{8}$	65	105 $\frac{3}{8}$	87	141 $\frac{1}{8}$	109	176 $\frac{7}{8}$
22	35 $\frac{1}{2}$	44	71 $\frac{1}{4}$	66	107	88	142 $\frac{3}{4}$	110	178 $\frac{1}{2}$
23	37 $\frac{1}{8}$	45	72 $\frac{7}{8}$	67	108 $\frac{5}{8}$	89	144 $\frac{3}{8}$		

Sizes depend on rolling mill limits.



1 3/4" SQUARE
1/4" BAR



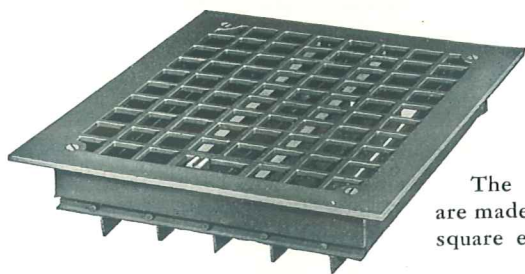
77 % Open Area

No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	3 3/4	18	35 3/4	34	67 3/4	50	99 3/4	66	131 3/4
3	5 3/4	19	37 3/4	35	69 3/4	51	101 3/4	67	133 3/4
4	7 3/4	20	39 3/4	36	71 3/4	52	103 3/4	68	135 3/4
5	9 3/4	21	41 3/4	37	73 3/4	53	105 3/4	69	137 3/4
6	11 3/4	22	43 3/4	38	75 3/4	54	107 3/4	70	139 3/4
7	13 3/4	23	45 3/4	39	77 3/4	55	109 3/4	71	141 3/4
8	15 3/4	24	47 3/4	40	79 3/4	56	111 3/4	72	143 3/4
9	17 3/4	25	49 3/4	41	81 3/4	57	113 3/4	73	145 3/4
10	19 3/4	26	51 3/4	42	83 3/4	58	115 3/4	74	147 3/4
11	21 3/4	27	53 3/4	43	85 3/4	59	117 3/4	75	149 3/4
12	23 3/4	28	55 3/4	44	87 3/4	60	119 3/4	76	151 3/4
13	25 3/4	29	57 3/4	45	89 3/4	61	121 3/4	77	153 3/4
14	27 3/4	30	59 3/4	46	91 3/4	62	123 3/4	78	155 3/4
15	29 3/4	31	61 3/4	47	93 3/4	63	125 3/4	79	157 3/4
16	31 3/4	32	63 3/4	48	95 3/4	64	127 3/4	80	159 3/4
17	33 3/4	33	65 3/4	49	97 3/4	65	129 3/4	81	161 3/4

Sizes depend on rolling mill limits.

Wrought Steel Registers

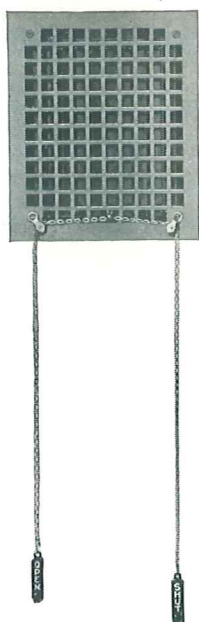
With Multiple Valves



The faces
are made with
square edges.

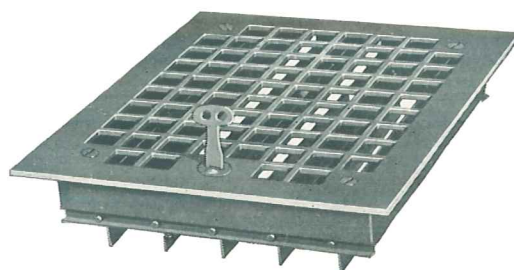
Style C

For use in the floor and equally suitable for use in the wall or ceiling, or for any purpose where multiple valve registers are desired.



For Operation by Cord or Chain

Multiple valve registers, if used in the wall or ceiling out of reach from the floor, can be operated by chain or cord, if equipped with pulleys.



Made in two styles.

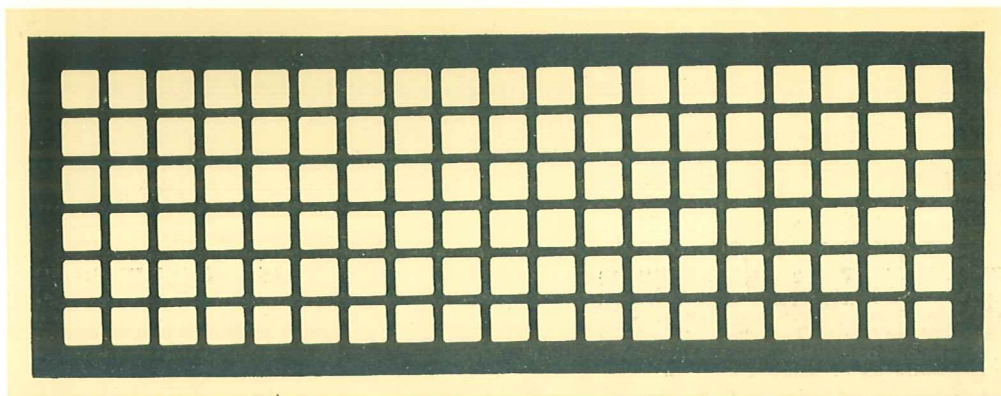
Style K, Key Operating

A removable key operates the valves and locks them in any required position.

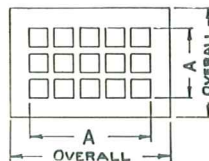
Style L, Lever Operating with Set Screw Attachment

Operated with a lever the same as a floor register, but the valves can be locked in any position by means of a set screw.

While the faces can be perforated with most of the types of perforation shown in this catalogue, $\frac{3}{4}$ " square with $\frac{1}{4}$ " bars, gives the most satisfactory spacing.



1 $\frac{3}{8}$ " SQUARE
 $\frac{3}{8}$ " BAR

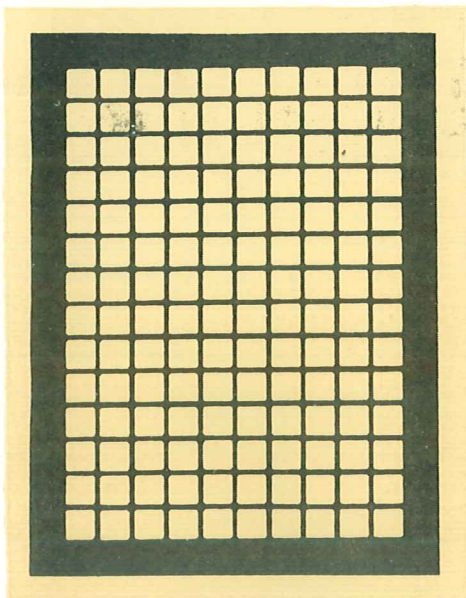


62% Open Area

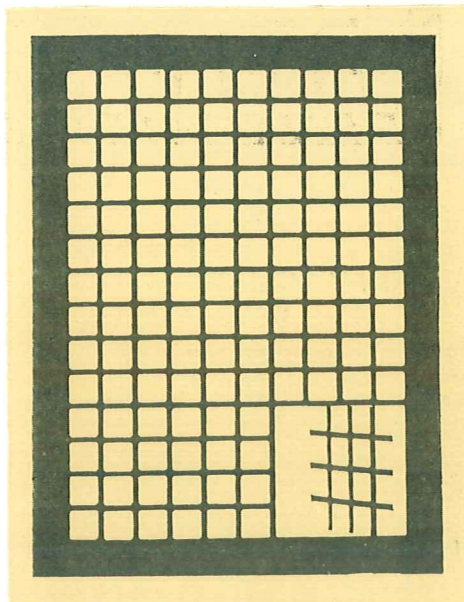
No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches	No. of Holes	A Inches
2	3 $\frac{1}{8}$	24	41 $\frac{5}{8}$	46	80 $\frac{1}{8}$	68	118 $\frac{5}{8}$	90	157 $\frac{1}{8}$
3	4 $\frac{7}{8}$	25	43 $\frac{3}{8}$	47	81 $\frac{7}{8}$	69	120 $\frac{3}{8}$	91	158 $\frac{7}{8}$
4	6 $\frac{5}{8}$	26	45 $\frac{1}{8}$	48	83 $\frac{5}{8}$	70	122 $\frac{1}{8}$	92	160 $\frac{5}{8}$
5	8 $\frac{3}{8}$	27	46 $\frac{7}{8}$	49	85 $\frac{3}{8}$	71	123 $\frac{7}{8}$	93	162 $\frac{3}{8}$
6	10 $\frac{1}{8}$	28	48 $\frac{5}{8}$	50	87 $\frac{1}{8}$	72	125 $\frac{5}{8}$	94	164 $\frac{1}{8}$
7	11 $\frac{7}{8}$	29	50 $\frac{3}{8}$	51	88 $\frac{7}{8}$	73	127 $\frac{3}{8}$	95	165 $\frac{7}{8}$
8	13 $\frac{5}{8}$	30	52 $\frac{1}{8}$	52	90 $\frac{5}{8}$	74	129 $\frac{1}{8}$	96	167 $\frac{5}{8}$
9	15 $\frac{3}{8}$	31	53 $\frac{7}{8}$	53	92 $\frac{3}{8}$	75	130 $\frac{7}{8}$	97	169 $\frac{3}{8}$
10	17 $\frac{1}{8}$	32	55 $\frac{5}{8}$	54	94 $\frac{1}{8}$	76	132 $\frac{5}{8}$	98	171 $\frac{1}{8}$
11	18 $\frac{7}{8}$	33	57 $\frac{3}{8}$	55	95 $\frac{7}{8}$	77	134 $\frac{3}{8}$	99	172 $\frac{7}{8}$
12	20 $\frac{5}{8}$	34	59 $\frac{1}{8}$	56	97 $\frac{5}{8}$	78	136 $\frac{1}{8}$	100	174 $\frac{5}{8}$
13	22 $\frac{3}{8}$	35	60 $\frac{7}{8}$	57	99 $\frac{3}{8}$	79	137 $\frac{7}{8}$	101	176 $\frac{3}{8}$
14	24 $\frac{1}{8}$	36	62 $\frac{5}{8}$	58	101 $\frac{1}{8}$	80	139 $\frac{5}{8}$	102	178 $\frac{1}{8}$
15	25 $\frac{7}{8}$	37	64 $\frac{3}{8}$	59	102 $\frac{7}{8}$	81	141 $\frac{3}{8}$	103	179 $\frac{7}{8}$
16	27 $\frac{5}{8}$	38	66 $\frac{1}{8}$	60	104 $\frac{5}{8}$	82	143 $\frac{1}{8}$	104	181 $\frac{5}{8}$
17	29 $\frac{3}{8}$	39	67 $\frac{7}{8}$	61	106 $\frac{3}{8}$	83	144 $\frac{7}{8}$	105	183 $\frac{3}{8}$
18	31 $\frac{1}{8}$	40	69 $\frac{5}{8}$	62	108 $\frac{1}{8}$	84	146 $\frac{5}{8}$	106	185 $\frac{1}{8}$
19	32 $\frac{7}{8}$	41	71 $\frac{3}{8}$	63	109 $\frac{7}{8}$	85	148 $\frac{3}{8}$	107	186 $\frac{7}{8}$
20	34 $\frac{5}{8}$	42	73 $\frac{1}{8}$	64	111 $\frac{5}{8}$	86	150 $\frac{1}{8}$	108	188 $\frac{5}{8}$
21	36 $\frac{3}{8}$	43	74 $\frac{7}{8}$	65	113 $\frac{3}{8}$	87	151 $\frac{7}{8}$	109	190 $\frac{3}{8}$
22	38 $\frac{1}{8}$	44	76 $\frac{5}{8}$	66	115 $\frac{1}{8}$	88	153 $\frac{5}{8}$	110	192 $\frac{1}{8}$
23	39 $\frac{7}{8}$	45	78 $\frac{3}{8}$	67	116 $\frac{7}{8}$	89	155 $\frac{3}{8}$		

Sizes depends on rolling mill limit.

GRILLES WITH SPECIAL UTILITY



CLOSED



OPEN

Any standard or special design Hendrick Grille can be arranged to have a swinging door so that valves or window locks may be reached. When closed, the edge of the door is not noticeable. Size and location of door should be specified. The size, however, will depend to a certain extent on the style and size of the perforation.

ORDERING INFORMATION

Quantity	Number of each size and style required.
Kind of Material	Steel, bronze, brass, etc.
Thickness or Gauge of Material	Specify thickness in inches or by U. S. Standard Gauge for Steel, Stainless metal or Monel; Birmingham Wire Gauge for Bronze and Copper, and Brown & Sharpe Gauge for Brass. See Tables on page 36.
Overall Dimensions	In the case of Shell and Half Shell Designs order must specify which dimension is the width and which the height. In all cases the overall dimension equals the daylight opening dimension given in this catalogue under each design, plus twice the width of margin required.
Design of Perforation	Use our Nomenclature or refer to page number in this catalogue.
Doors or Hand Holes	Specify approximate size and location desired. We will furnish same as near as possible to the size and location specified, depending upon the style and size of perforation. See page 34.
Attachment Holes, Location, Size and Style	Specify location of holes in margin, also distance apart, or send sketch showing location desired. Specify size, also whether plain or countersunk.
Finish	Specify whether unfinished, with prime coat, with lacquer, or Duco finish, color, or electroplated. In the case of color (other than black or white) or electroplated send sample of finish.

Tables of Weights of Sheet Metals

U. S. Standard Gauge

Number of Gauge	Thick-ness in Decimals of an Inch	Weight Per Square Foot in Pounds			
		Steel	Stainless Iron and Steel, Armco Iron and Toncan Iron	Monel	Nickel
6	.203125	8.287	8.125	9.34	9.338
7	.1875	7.65	7.5	8.62	8.619
8	.171875	7.01	6.875	7.90	7.901
9	.15625	6.38	6.25	7.18	7.183
10	.140625	5.74	5.625	6.47	6.465
11	.125	5.1	5	5.75	5.746
12	.109375	4.46	4.375	5.03	5.028
13	.09375	3.83	3.75	4.31	4.310
14	.078125	3.19	3.125	3.59	3.591
15	.0703125	2.87	2.8125	3.23	3.232

Number of Gauge	Thick-ness in Decimals of an Inch	Weight Per Square Foot in Pounds			
		Steel	Stainless Iron and Steel, Armco Iron and Toncan Iron	Monel	Nickel
16	.0625	2.55	2.5	2.87	2.873
17	.05625	2.30	2.25	2.59	2.586
18	.05	2.04	2	2.30	2.30
19	.04375	1.78	1.75	2.01	2.011
20	.0375	1.53	1.50	1.72	1.724
21	.034375	1.40	1.375	1.58	1.580
22	.03125	1.28	1.25	1.44	1.437
23	.028125	1.15	1.125	1.29	1.293
24	.025	1.02	1	1.15	1.149
25	.021875	.892	.875	1.01	1.005

Add .156 to weights of iron and steel to secure weight of galvanized material. We will furnish sheet steel rolled to U. S. Standard Gauge unless otherwise instructed.

Birmingham Wire Gauge (STUBS)

Number of Gauge	Thick-ness in Decimals of an Inch	Weight Per Square Foot in Pounds			
		Steel	Man-ganese Bronze	Copper	Yellow Metal
5	.220	8.97	9.62	10.19	9.565
6	.203	8.28	8.87	9.399	8.826
7	.180	7.34	7.87	8.334	7.826
8	.165	6.73	7.22	7.639	7.173
9	.148	6.03	6.47	6.852	6.434
10	.134	5.46	5.86	6.204	5.826
11	.120	4.896	5.25	5.556	5.217
12	.109	4.447	4.77	5.047	4.739
13	.095	3.876	4.15	4.399	4.130
14	.083	3.386	3.63	3.843	3.608
15	.072	2.937	3.15	3.334	3.130
16	.065	2.652	2.85	3.009	2.826
17	.058	2.366	2.54	2.685	2.521
18	.049	1.999	2.14	2.269	2.130
19	.042	1.713	1.84	1.945	1.826
20	.035	1.428	1.53	1.621	
21	.032	1.305	1.40	1.482	
22	.028	1.142	1.22	1.296	
23	.025	1.020	1.09	1.158	
24	.022	.897	.96	1.019	

Brown & Sharpe Gauge (AMERICAN)

Number of Gauge	Thick-ness in Decimals of an Inch	Weight Per Square Foot in Pounds			
		Brass	Copper	Yellow Metal	Alumi-num
5	.1819	8.016	8.424	7.908	2.56
6	.1620	7.139	7.502	7.043	2.28
7	.1443	6.357	6.681	6.273	2.03
8	.1285	5.661	5.949	5.586	1.81
9	.1144	5.042	5.298	4.973	1.61
10	.1019	4.490	4.718	4.430	1.44
11	.0907	3.998	4.201	3.945	1.28
12	.0808	3.560	3.741	3.513	1.14
13	.0720	3.171	3.332	3.128	1.01
14	.0641	2.824	2.967	2.786	.903
15	.0571	2.514	2.642	2.481	.804
16	.0508	2.239	2.353	2.209	.716
17	.0453	1.994	2.096	1.967	.638
18	.0403	1.776	1.866	1.752	.568
19	.0359	1.581	1.662		.506
20	.0320	1.408	1.480		.450
21	.0285	1.254	1.318		.401
22	.0253	1.117	1.174		.357
23	.0226	.9945	1.045		.318
24	.0201	.8856	.9307		.283

The weight per square foot of any metal can be readily calculated by multiplying the width by the length by the thick-ness and the result by the constant for the pounds per cubic inch. For example, sheet copper 12" wide x 12" long x .454"; $12 \times 12 = 144$ x .454 = 65.376 x .3215 = 21.02 pounds per square foot.

POUNDS PER CUBIC INCH VARIOUS METALS

Steel	.2833
Tobin Bronze	.3036
Manganese Bronze	.3036
Brass	.306
Copper	.3215
Yellow Metal	.3015
Commercial Bronze	.318
Aluminum	.0978
Monel	.320
Ascoloy 33	.276
Nickel	.319
Allegheny Metal	.283

